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BusinessWeek

3, 1993

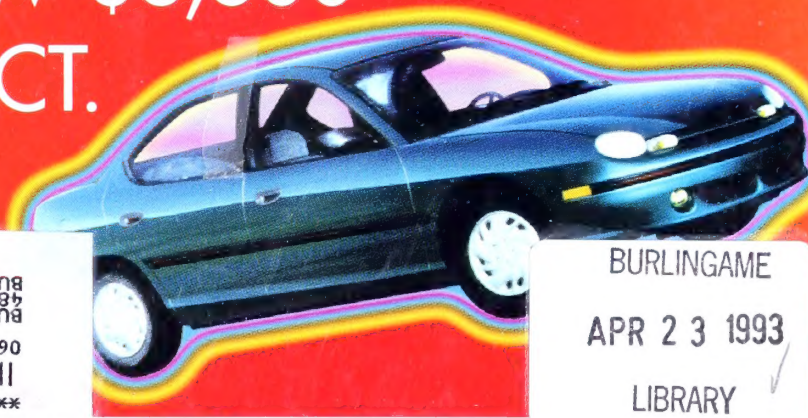
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\$2.75

CHRYSLER'S NEON

DETROIT CAN'T MAKE MONEY
ON A SMALL CAR, RIGHT?
HERE'S THE **INSIDE STORY** OF
HOW CHRYSLER IS TRYING TO
DEFY CONVENTIONAL WISDOM
WITH A NEW \$8,600
SUBCOMPACT.

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MOTOWN HARMONY: CHRYSLER'S TEAM PRODUCED THE NEON FAST, FOR A FRACTION OF WHAT ANY RECENT SMALL CAR HAS COST

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Dodge Omni. AMC Gremlin. Chevy Vega. Ford Pinto. It's not a pretty list. For at least two decades, Detroit has tried to make a reliable, affordable, profitable small car—and failed. Meanwhile, Japan set the standard. Now, that may change. Using its speedy, team-oriented development process, Chrysler may have the car Detroit couldn't build

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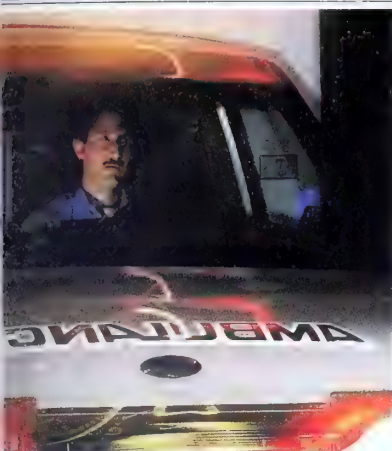
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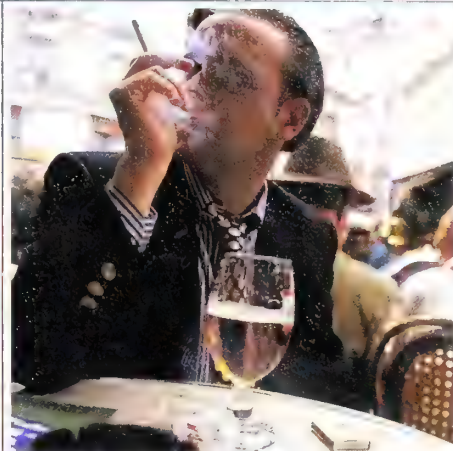
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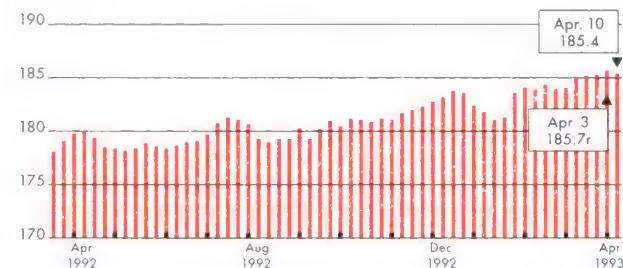


BusinessWeek Index

PRODUCTION

Change from last week: -0.2%
Change from last year: 3.0%

1967=100 (four-week moving average)

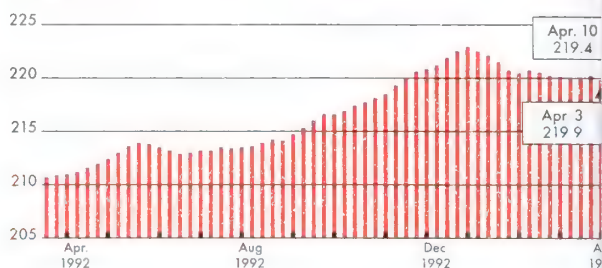


The production index declined during the week ended Apr. 10. On a seasonally adjusted basis, output of trucks, electric power, crude-oil refining, coal, lumber, and rail-freight traffic declined, while auto production increased. Steel, paper, and paperboard output was unchanged from the previous week. Before calculation of the four-week moving average, the index fell to 185, from 186.6, possibly because some plants were closed during the Easter weekend.

BW production index copyright 1993 by McGraw-Hill Inc.

LEADING

Change from last week: -0.2%
Change from last year: 3.9%



The leading index fell slightly during the week ended Apr. 10, to its low level since November, 1992. Stock prices were lower, and the growth of material prices turned negative for the week. Bond yields were up, though, and the growth rates of real estate loans and M2 improved. The number of business failures was little changed. Before calculation of the four-week moving average, the index rose to 219.6, from 219.1 in the previous week.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (4/17) thous. of net tons	1,810	1,787#	0.1
AUTOS (4/17) units	107,762	110,823r#	3.4
TRUCKS (4/17) units	84,896	79,298r#	18.6
ELECTRIC POWER (4/17) millions of kilowatt-hours	51,209	51,846#	-0.2
CRUDE-OIL REFINING (4/17) thous. of bbl./day	13,406	13,100#	1.2
COAL (4/10) thous. of net tons	18,366#	17,999	-1.4
PAPERBOARD (4/10) thous. of tons	824.0#	828.9r	3.7
PAPER (4/10) thous. of tons	788.0#	797.0r	2.1
LUMBER (4/10) millions of ft	463.1#	463.3	-8.2
RAIL FREIGHT (4/10) billions of ton-miles	20.2#	21.1	-1.5

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWPPI, SFPA, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (4/21)	111	114	134
GERMAN MARK (4/21)	1.60	1.59	1.65
BRITISH POUND (4/21)	1.54	1.56	1.77
FRENCH FRANC (4/21)	5.42	5.36	5.58
CANADIAN DOLLAR (4/21)	1.26	1.26	1.19
SWISS FRANC (4/21)	1.46	1.45	1.53
MEXICAN PESO (4/21)	3.074	3.079	3.088

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (4/21) \$/troy oz.	339.000	338.250	0.3
STEEL SCRAP (4/20) #1 heavy, \$/ton	106.50	106.50	15.8
FOODSTUFFS (4/20) index, 1967=100	205.9	207.3	2.2
COPPER (4/17) c/lb	94.3	94.0	-9.0
ALUMINUM (4/17) c/lb.	52.8	52.5	15.4
WHEAT (4/17) #2 hard, \$/bu	3.67	3.70	-10.0
COTTON (4/17) strict low middling 1-1/16 in., c/lb.	56.26	56.58	5.4

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (4/16) S&P 500	448.72	442.00	
CORPORATE BOND YIELD, Aaa (4/16)	7.45%	7.61%	
INDUSTRIAL MATERIALS PRICES (4/16)	97.4	97.7	
BUSINESS FAILURES (4/9)	383	381	
REAL ESTATE LOANS (4/7) billions	\$395.9	\$395.1r	
MONEY SUPPLY, M2 (4/5) billions	\$3,444.2	\$3,439.6r	
INITIAL CLAIMS, UNEMPLOYMENT (4/3) thous.	373	378	

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Street (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
INDUSTRIAL PRODUCTION (Mar.) total index	112.0	112.0r	
CAPACITY UTILIZATION (Mar.)	79.9%	80.1%r	
IMPORTS (Feb.) millions	\$44,378	\$44,306r	
EXPORTS (Feb.) millions	\$37,181	\$37,148r	

Sources: Federal Reserve Board, Commerce Dept.

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (4/5)	\$1,041.9	\$1,036.3r	
BANKS' BUSINESS LOANS (4/7)	275.0	277.5	
FREE RESERVES (4/14)	794	1,169r	
NONFINANCIAL COMMERCIAL PAPER (4/7)	149.1	142.6	

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed in two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (4/20)	2.84%	2.98%	3%
PRIME (4/21)	6.00	6.00	6%
COMMERCIAL PAPER 3-MONTH (4/20)	3.13	3.16	3%
CERTIFICATES OF DEPOSIT 3-MONTH (4/21)	3.08	3.09	3%
EURODOLLAR 3-MONTH (4/17)	3.13	3.11	4%

Sources: Federal Reserve Board, First Boston

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment. 1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

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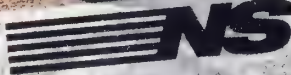
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IT'S ROUGH IN THE DIAMOND DISTRICT



PRECIOUS FEW: JUST 250 CUTTERS WORK ON 47TH STREET, DOWN FROM 2,500 IN 1980

Walk along West 47th Street near Rockefeller Center, and you're in a noisy bazaar that seems out of place in buttoned-down midtown Manhattan. This is the diamond district, the nexus of the \$5.6 billion U.S. gem trade, where 95% of the stones coming into the country are bought, cut, polished, weighed, or sold.

Strolling along the block, Hasidic Jews poke their heads into shops to ask whether merchants need any fresh diamonds. Barkers in sandwich boards coax shoppers into arcades jammed with tiny stalls. Inside, fast-talking jewelers swear everything is the bargain of a lifetime.

That's strictly penny-ante stuff. The real action takes place way above street level, in cutting rooms and private offices. In the heavily guarded Diamond Dealers Club bourse, scores of Hasidim, their coat pockets heavy with loose stones, sit at long tables and cut clandestine million-dollar deals with traders from Belgium, Israel, and India. All deals are sealed with a handshake and the Hebrew saying "*mazal u'bracha*"—luck and blessings. "The street has its own culture. You almost need a passport to work here," says Martin Rapaport, an influential broker.

In the back, the Hasidim now mingle with an occasional Indian or Asian. They play gin rummy and chess, smoke thick cigars, and schmooze. A poster of a

Jackie Mason performance hangs next to "wanted" posters identifying at-large criminals the security-obsessed diamond dealers should keep a lookout for.

But the occasional heist is not the district's big worry. The world diamond market is taking a beating. De Beers Consolidated Mines Ltd., the huge South African cartel that controls about 80% of the international trade, saw sales slip 13% last year. An investment-grade one-carat stone that wholesaled for \$63,000 in high-inflation 1980 goes for just \$13,500 today. Carat volume has held steady, but the market is increasingly in smaller stones—some just one one-hundredth of a carat—which are cut in low-cost diamond centers in India, Israel, Malaysia, Thailand, and China.

That shift to modest stones threatens the survival of 47th Street's cutters, renowned as the finest in the world. Their labor is expensive, about \$200 per finished carat, so only the best stones are cut here. From 1980 to 1992,

"The players, if 100 of them left New York, this industry would be finished. There would be nothing here."

the annual volume of raw stones imported for cutting dropped 50%, to \$49 million. And the number of diamond-district cutters has dwindled to 250, from about 2,500 in 1980.

Richards, as one cutter insists on identifying himself, has been at it for 40 years. His cluttered workshop overlooks Rockefeller Center's ice-skating rink. He and a handful of elderly colleagues spend weeks and even months crafting brilliant shapes out of diamond roughs, which arrive looking like octahedrons of frosted white glass.

Richards has just spent months crafting a flawless heart-shaped 20-carat stone the size of a peach pit, which should retail for about \$1.5 million. One of his four sons has followed him into the trade, but Richards says it's tough on novices now. "In my time, I went out and bought myself some diamonds," he recalls. "Diamond was cheap at the time, and I learned on my own stones. I made a mistake, it was my loss. These beginners, they cannot afford to buy this kind of stone," he says, jiggling a large rough diamond in his sooty hand.

By contrast, there are 500,000 cutters and polishers in India alone. Labor is so cheap—about \$80 a month—that low-grade diamonds once used for industrial purposes are being cut. India and other countries pour huge subsidies into their growing diamond industries. Israel's fortresslike Ramat Gan compound, near Tel Aviv, is a high-tech 600,000-square-foot free-trade zone.

'NEW YORK IS SHAKY.' It's a struggle to keep the Manhattan street shoppe friendly. Two police booths, erected at the expense of a 47th Street trade association, are usually vacant. Fear of crime drives many middle-class shoppers and foreign dealers elsewhere, even though street crime in the diamond district is relatively rare. Add in high taxes and the other hassles of doing business in New York, and many see the light going out of 47th Street. "New York is shaky," laments Rapaport, the diamond broker. "The players, if 100 of them left New York, this industry would be finished. There would be nothing here. The diamond industry here would be like the diamond industry in Ottumwa, Iowa."

While 47th Street boosters pooh-pooh talk of a decline, office-rental rates are half what they were a few years ago, and the cutters vanished altogether and lots of dealers moved to Ramat Gan. That would be a crippling blow to the district. A diamond may be forever, but West 47th Street may soon be a footnote in New York's history books.

ELIZABETH LES

Staff Editor Lesly covers corporate strategies.

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NOTES ON THE CAST IN THE IBM DRAMA

Regarding "Faith in a stranger" (Cover Story, Apr. 5), I love it! John Sculley is now a revered elder statesman. Wasn't it only yesterday that technologists everywhere were wringing their hands in fearful anticipation of the damage he would do to Apple?

I'm putting my money on Lou Gerstner, who will prove to be a winner for IBM as Sculley has been for Apple.

Virginia Simpson
Alexandria, Va.

In "The RJR Nabisco he's leaving behind" (Cover Story, Apr. 5), one of Louis Gerstner's achievements is having cut 3,000 jobs, saving \$550 million a year. While Gerstner may have helped his company's bottom line through cost-cutting, I don't consider putting 3,000 people out of work an achievement.

Jonathan Katz
Pomona, N.Y.

As a former employee, I believe your comments on Apollo Computer in "From Mallomars to mainframes: Is experience necessary?" (Cover Story, Apr. 5) need correcting. Thomas A. Vanderslice, as Apollo's CEO, certainly understood the importance of the Unix operating system environment. He was a driving force behind the Open Software Foundation, which supported the concept. However, the research and development team at Apollo was divided.

Hewlett-Packard was smart enough to recognize what could be done with a company that had substantial growth but faced a major and difficult product transition. The strategy executed by Vanderslice to sell Apollo probably saved the company from inevitable demise.

David W. Herter
Westboro, Mass.

SUPERCONDUCTORS INVADE THE WIRELESS WORLD

Your article "Superconductors run into resistance" (Science & Technology, Apr. 12) was incomplete and far too pessimistic.

BUSINESS WEEK
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Illinois Superconductor is developing in partnership with AT&T and Ameritech Mobile Services, among others, with partial financial support from the U.S. Commerce Dept.'s Advanced Technology Program, new products based on high-temperature superconductors that would greatly improve the quality and capacity of wireless systems such as cellular telephones.

The picture you published showed me holding a prototype of a superconducting cellular-telephone product, but it was not identified as such in the caption.

Ora E. Smith
President & CEO

Illinois Superconductor Corp.
Evanston, Ill.

A&W AND WALL STREET

Your story, "A&W's summer plans: Hitting the warpath" (The Corporation, Apr. 12), was a balanced, informative piece.

However, the fourth paragraph of the story quotes A&W Chairman Lou Lowenkron as saying: "What do they know?" in response to Wall Street concerns about A&W. Mr. Lowenkron does not recall making that statement or implying that sentiment.

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Ernest J. Cavallo
Executive Vice-President
A&W Brands Inc.
White Plains, N.Y.

KUTTNER'S IMPERFECT TAKE ON IMPERFECT MARKETS

Referring to "This just might be the dream team of economics" (Economic Viewpoint, Apr. 5), Robert Kuttner seems confused on the subject of imperfect markets. To achieve growth, it is vital that businesses have a right to fail, not just succeed. You make a mistake, you move on. When the government

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Readers Report

CORRECTIONS & CLARIFICATIONS

"Superconductors run into resistance" (Science & Technology, Apr. 12) incorrectly stated the cumulative losses of American Superconductor Corp. as of Dec. 31, 1992. The correct figure was approximately \$11.4 million.

makes a mistake, it never goes away.
Scott C. Johnston
Hong Kong

RETIREES GET A TASTE OF SOCIAL INSECURITY

Referring to "From New Deal to Reagan deal" (Economics, Apr. 5), my wife and I are a retired middle-middle-class couple, neither low-income nor affluent. Changing the level of taxation of Social Security benefits to 85%, as Clinton wants to do, will increase our federal income tax by 20.66%.

Clinton promised during the campaign not to raise taxes on the middle class. Now the postelection plan calls for socializing retired middle-middle-class people.

Verne Grainger
Austin, TX

When I retired I did so after calculating what my income would be. Had I known what the future held regarding taxation of Social Security, I would not have retired. Many of us are now considering reentry into the work force.

J. M. Hobelmann
Houston

MAYBE STUDENT LOANS AIN'T BROKE, BUT STUDENTS ARE

Regarding Dean Foust's comment, "Student loans ain't broke. Don't fix 'em" (Finance, Apr. 5), my two children, who were able to get into Vassar and Earlham despite going to inner-city schools, currently have between \$10,000 and \$12,000 in debt through guaranteed student loans and national direct student loans. They would pay no higher interest on a car loan than on the student loans.

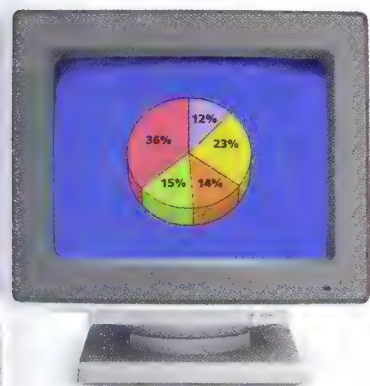
I think the situation is scandalous. The government is not supporting our children or our educational system. Education loans ought to be a lot less burdensome.

Jane C. Murphy
Detroit

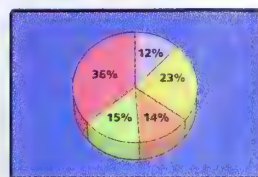
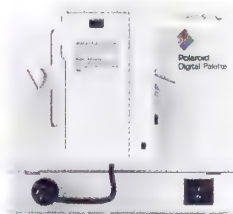
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Books

BLOOD & WINE: THE UNAUTHORIZED STORY OF THE GALLO WINE EMPIRE

By Ellen Hawkes

Simon & Schuster • 464pp • \$25

DAYS OF WINE AND NEUROSIS

Ernest and Julio Gallo, who produce roughly one in four bottles of wine sold in the U.S., have spent hundreds of millions promoting brands such as Bartles & Jaymes, André Champagne, and, recently, upscale varietals. But when it comes to public relations, they have long made it clear that they have no interest in giving interviews—or even in helping with simple fact-checking. The Gallos' fortresslike complex in Modesto, Calif., has no identifying sign and offers no tours or public tastings.

Industry insiders generally blame the company's siege mentality on corporate mastermind Ernest Gallo's loathing of most outsiders, as well as his desire to control his family's business and reputation. In addition, a hefty share of Gallo's sales come from cheap "street" wines, such as Thunderbird, whose buyers aren't

swayed by glowing mentions in the press.

Now comes Ellen Hawkes's *Blood & Wine: The Unauthorized Story of the Gallo Wine Empire*. A past that Ernest, 85, tried to bury, even rewrite, has been exhumed in intriguing and malodorous detail. The family history Hawkes traces is laced with larceny, fraud, wife- and child-beating, even murder. That past, in her portrayal, made Ernest a vindictive control-freak who built an empire but whose cant of "family comes first" rings hollow. The company says it considers that portrayal beneath comment.

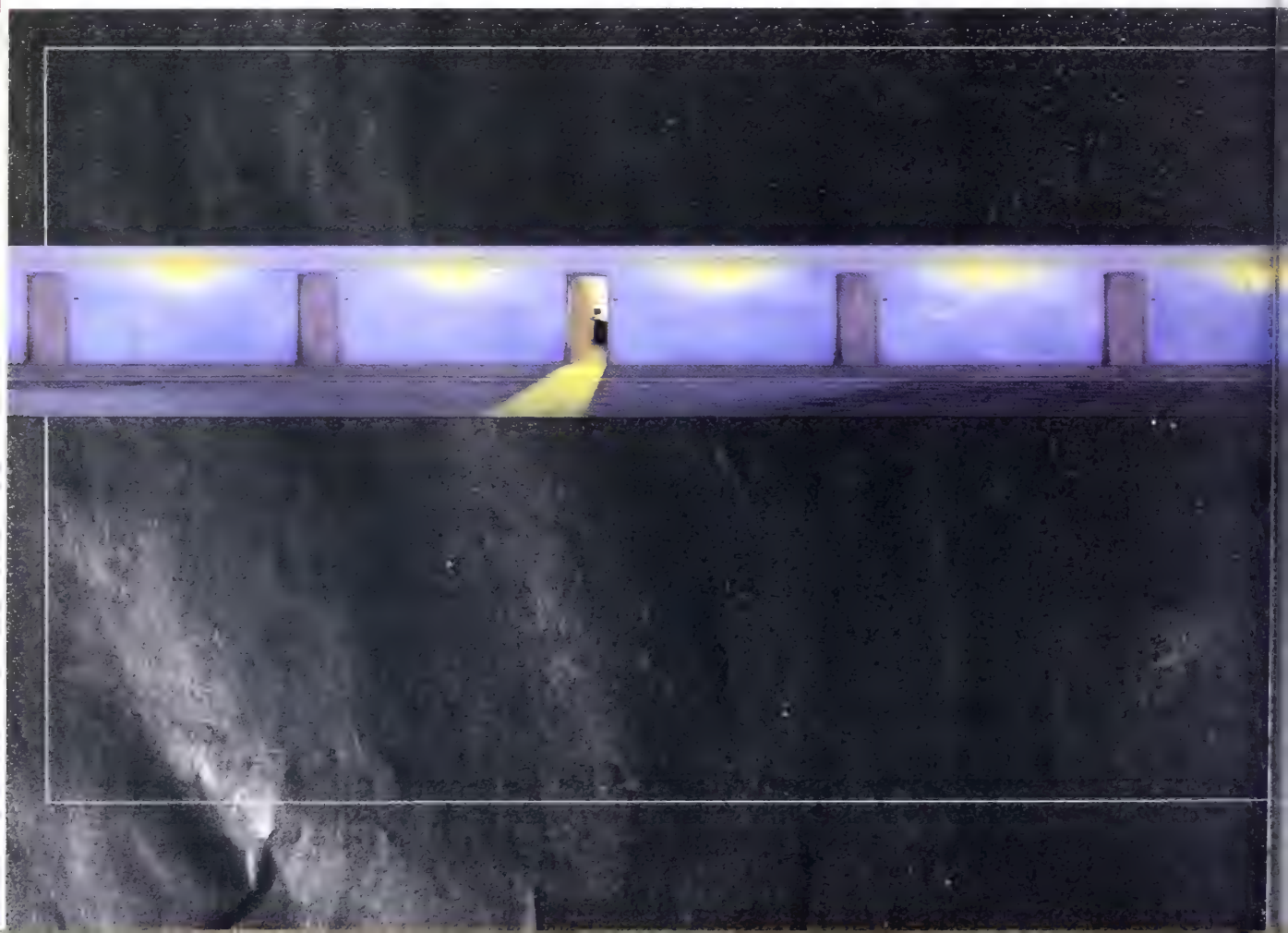
Hawkes reports that during Prohibition, the Gallos' father, Joseph, was a bootlegger with his brother Mike. The two abused their wives and often ran afoul of the law, she writes. Joe Sr., a heavy drinker, failed at several businesses and ran an illegal still. After he

bought vineyards, he worked Ernest and Julio like dogs, beating them regularly. Eventually, the parents died in an apparent murder-suicide.

This hellish history indelibly marked the sons. Ernest vowed early to succeed at all costs, and as an adult, Hawkes writes, he rules by humiliation and fear. He handles business and marketing while Julio, two years younger, has responsibility for the vineyards and wine-making. Hawkes depicts Julio as weak and perpetually cowed by Ernest.

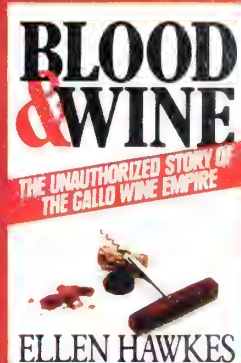
Hawkes delved into all this because of a 1986 suit the two brought against another brother, Joseph Gallo Jr. They wanted him to stop marketing "Joseph Gallo Cheese," which they alleged was of poor quality and a threat to their brand image. Hawkes suggests that Ernest and Julio had long resented Joe, who because he was a decade younger, had been spared the work and abuse their father had lathered on them.

In preparing Joe Jr.'s defense, his attorneys uncovered documents that convinced them Ernest and Julio had defrauded him of his rightful inheritance of one-third of the winery. Among the most serious charges: that Joe Jr. had never signed—or even seen—a settlement



ment supposedly ex-
ed when he was a
g man. While Ernest
Julio have long said
inherited just \$5,900
earned wine-making
a pamphlet, Hawkes
documents show
inherited an estate
an operating wine
ess worth close to
000 in 1933.
imately, Joe Jr. lost
rademark suit, and
ourt decreed there
no basis for his coun-
im. Hawkes's effort
aint this seemingly
meaning but simple
as a tragic victim
but that doesn't derail her book.
& Wine's frankly sensational value
chronicling of a fascinating family
prise where, as Joe's son Mike puts
Vine is thicker than blood."
rtainly this is an unlikely text for
l-be wine titans. In Hawkes's tell-
a pervasive attitude of "Do any-
it takes to accomplish the Gallo
was no small part of the winery's
ss. To launch Thunderbird, a wine-
cing blend of wine and lemon juice,
et preparation included strewing

*In Hawkes's tale, a
brutal family history
upstages the Gallo
family's business
accomplishments*



empties in skid row gutters. And un-
named former employees told Hawkes
that they carried spritzers of oil into
stores and sprayed rivals' bottles so they
would collect dust and look unpopular.
They would pierce the tops so air would
enter and ruin the wine, even stuff in
cigarette butts or mouse feces. But,
writes Hawkes: "Whether Ernest knew
about these practices is unclear."

If Hawkes's assessment of Ernest's
sons is even half right, this dynasty's
days may be numbered. She says the

elder, David, is eccentric,
famous for sliding paper
clips under his eyelids
and spilling food and
drink on himself, while
Joey has been publicly
ridiculed by his father for
years.

The winery has issued
an indignant dismissal of
Hawkes's "lengthy re-
hash" of Joe Jr.'s failed
claim on the winery and
calls her portrait of the
Gallo family "so obviously
contemptible and despi-
cable as not to merit any
comment." But Hawkes
bolsters her account with
53 pages of detailed notes

on her sources, which include a remark-
able number of on-the-record interviews.

One interesting tidbit from the trial:
The Gallos can't seem to shake their
"street" image. Despite \$70 million in
promotion, their varietals haven't been
successful. After reading this book, you
won't feel sorry for them. Hawkes notes
that even as the brothers became multi-
millionaires, their Uncle Mike spent his
last years destitute, in a rusted-out trail-
er. She quotes a Gallo executive who
was charged with visiting him regularly

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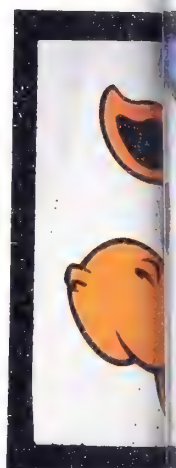
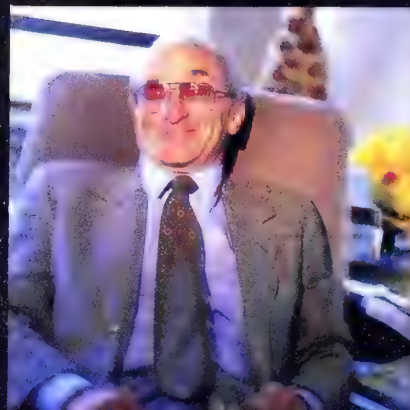
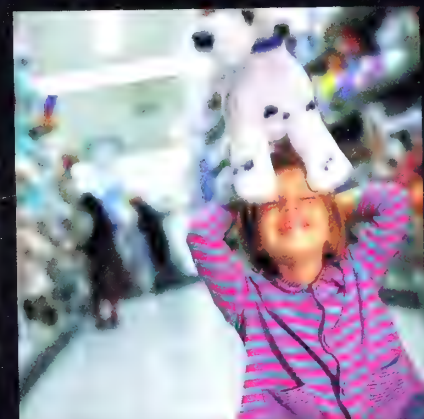
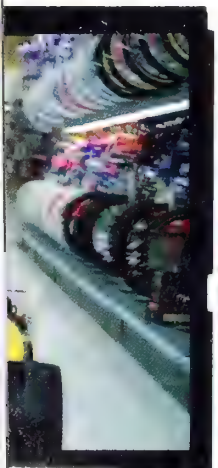
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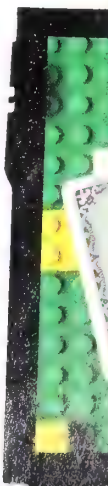
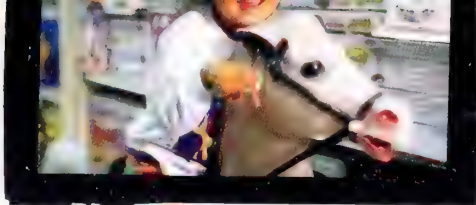


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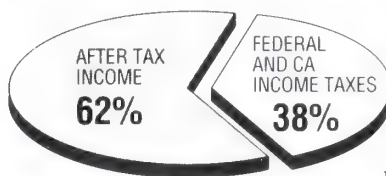
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BY KEITH HAMMONDS

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FLYING IN THE FACE OF REASON: WHY THE SKIES NEED REREGULATING

BY ROBERT KUTTNER



The system today oscillates between ruinous competition, price-gouging, and selective deep discounts. It should be ditched

It is time to reregulate the airlines. But the Clinton Administration, with the best of intentions, could actually make things worse by pursuing the fantasy of purer competition.

Airline deregulation was supposed to bring more consumer choice, more price competition, and lower fares. At first, dozens of new airlines entered markets, forcing down prices. But the established carriers responded by selectively undercutting cheap fares, setting up "fortress hubs," and forcing the upstarts out of business. The airlines also used computerized reservation systems to complicate fare structures mercilessly. Today's airline cartel uses the same predatory practices that the railroads used in the last century.

But despite all the manipulation, this is a cartel that can't shoot straight. Last year, notwithstanding tacit collusion, predation, gouging, cheaper fuel, and declining labor costs, the airlines collectively lost \$7 billion—their third straight money-losing year. Airline bonds have been downgraded to junk. Service is eroding. Hundreds of jetliners have been mothballed, and the slack demand for new planes has in turn created a recession in aircraft production.

The system today oscillates between ruinous competition, opportunistic overcharging, and selective deep discounts. Over time, the fuel-adjusted cost of air travel actually declined faster under regulation.

FARE MARKET VALUE. I often fly between Boston and Washington. No matter how far in advance I book, the fare is \$662.50 coach round-trip, and identical on all airlines. However, if I were flying for a corporation that buys tickets in bulk, the fare would be about \$300. And—fasten your seatbelt—if I were flying as a federal bureaucrat, the fare would be just \$140 round-trip. The government has negotiated a bulk contract with Northwest Airlines Inc. that provides cut-rate prices for federal officials. In effect, private air travelers subsidize government travel.

The reason the airlines can charge me \$662.50 for a short flight is because takeoff and landing slots are restricted in the busy Northeast corridor, artificially limiting competition. But at that price, fewer people fly. So the airlines then try to fill up the seats by flying bureaucrats at steep discount. If fares were regulated, with one basic coach price and perhaps a modest discount for advance purchases, the airlines could fly you, predictably, between Boston and Washington for well under \$300 round-trip and make money.

Evidently, despite the mistaken theories of the deregulators, a highly capital-intensive industry with a standard product, such as air-

lines, cannot stand pure price-competition for all the profits would soon be competed away. Airlines dwell not in an Adam Smith world but in a world more reminiscent of economist Joseph Schumpeter's model in which "efficiency" depends more on technical advances than on price wars. Technical advances, better airplanes—in turn require deep pockets and deep pockets require predictability.

BLOWING IN THE WIND. Transportation Secretary Federico F. Peña recently announced a commission to study the airline and aircraft industries. But will this commission still fly the old dogmas and try to purify deregulation? Two straws in the wind are the recent rejection of antitrust enforcement (a decade late, but never mind) and the conditional approval of USAir Inc.'s proposed joint operational deal with British Air PLC.

Last year, an upstart airline called Reno Air Inc. (no relation to the Attorney General) began flying to seven cities out West, using leased planes. Northwest, following more than a decade's standard tactics, began selectively underpricing seats on the same routes. Perhaps Reno's name caught the Justice Department's attention. The antitrust division warned Northwest that it was courting trouble. Northwest took the hint.

Allowing upstarts back in will restore some temporary bargains, but in the long run will create a more fragmented and money-losing industry. To compensate, Northwest probably jack up my Washington fare to \$1,000—and I will stay home or take Amtrak. The Administration also thinks it can increase competition by allowing foreign carriers to compete in domestic U.S. markets, if U.S. carriers get greater access overseas. Most of the carriers, however, are subsidized. And proliferation of airlines flying domestic would only add to the ruinous cycle of price-cutting, gouging, and bankruptcy.

Instead, we should reregulate. The same computers that let airlines manipulate fares would allow regulators a much more nuanced brand of regulation. Discriminatory pricing should be prohibited. While regulation should not dictate prices, it could establish "zone of reasonableness," requiring fares to roughly reflect distances and costs. This would give airlines flexibility to compete on price within limits and give the traveler greater predictability. The airlines would be assured a modest return, the most efficient carriers would earn the greatest profits, and aircraft manufacturers whose products are the real source of cheap air travel over time, would again be able to sell planes. The deregulators should admit that their experiment went down in flames.

ROBERT KUTTNER IS CO-EDITOR OF THE AMERICAN PROSPECT AND AUTHOR OF THE END OF LAISSEZ-FAIRE

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BY GENE KORETZ

NEW NUMBERS ARE BRIGHTENING THE EMPLOYMENT OUTLOOK

One of the most distressing and curious aspects of the current recovery has been the lack of job growth. Since the recession ended, for example, the economy has generated less than a million jobs, compared with an average of about 8 million in the first two years of prior recoveries. This lackluster record seems particularly puzzling in light of the economy's surge in the second half of last year, when much of the growth was attributed to a surprisingly large increase in productivity.

One possible explanation of the seeming lack of job creation, says economist Mark Zandi of Regional Financial Associates Inc., is that the government's monthly employment reports have been understating job gains. And in his reading of the statistical tea leaves, there's a strong chance that the Bureau of Labor Statistics will significantly raise its employment estimates for the past year when it issues its annual benchmark revision of payroll employment in June.

The reason is a recent revision of

estimates, which had been running below the national numbers, are now appreciably above them (chart).

Since June's benchmark revision of the national numbers will bring them into line with the state counts, Zandi expects job growth for 1992 to be raised by 300,000 jobs. And if the January, 1993, estimate is added to the tally, he says, "the upward revision could exceed 650,000—raising 12-month job growth through January from 0.7% to over 1%.

None of this means that labor market conditions are good. "A higher employment trajectory helps explain the economy's strength in the second half of the year," says Zandi, "but expected revisions will still leave job gains far below their normal cyclical increase." Although the state numbers suggest that hiring is picking up some steam, he sees "few signs yet" that it will regain its traditional vigor anytime soon.

FOR VIETNAM, IT'S A GOOD MORNING INDEED

Even without U.S. participation, foreign investment, combined with domestic economic reforms, promises to transform Vietnam into Asia's new tiger, reports economist William P. Sterling of Merrill Lynch & Co. Agricultural reforms have already turned the nation from a net importer of rice to the world's third-largest exporter. Although inflation soared at a 700% annual rate after the collapse of Vietnamese-Soviet trade a few years ago, the government has reduced it to a 17% pace, and it has stabilized the currency by clamping down on credit and allowing the U.S. dollar to circulate freely as an alternative currency.

As a result of such efforts and domestic-compensation rates that average \$12 to \$13 a month for nonskilled workers, capital inflows from Australia, Hong Kong, and Taiwan have taken off. Last year Vietnam achieved its first-ever current-account surplus, and plans are under way to set up a domestic stock market later this year.

With economic growth exceeding 8% in 1992 and headed even higher this year, says Sterling, Vietnam is already capitalizing on its natural advantages—"high population growth, low labor costs, and an entrepreneurial culture that apparently was not smothered by communism." And once the U.S. embargo is lifted—possibly later this year—Vietnam's enhanced ability to secure foreign investment and aid funds could fuel even more explosive growth.

FOREIGN BANKS IN THE U.S. TIGHTEN THEIR PURSE STRINGS

Business lending by foreign banks operating in the U.S. appears to be on the wane, observes economist Zwenig A. Goy of First Boston Corp. Such lending, she notes, grew by \$29 billion in 1991 and \$8 billion in 1992, partly offsetting loan declines of \$52 billion and \$1 billion posted by U.S. banks. But in the fourth quarter of last year, business loans by foreign banks in the U.S. actually fell for the first time in nearly three years, shrinking by \$3 billion.

The slowdown in foreign bank lending, says economist Marc W. Wansel of Morgan Guaranty Trust Co., weakens the argument that the lack of credit growth is due to a lack of demand. Foreign bank branches were able to post strong loan growth during the recession, he argues, they should be able to do at least as well today. Instead, recessionary problems at home seem to be inspiring them to pull in their horns. Development that could "well act as a drag on future growth," even as domestic banks start to expand.

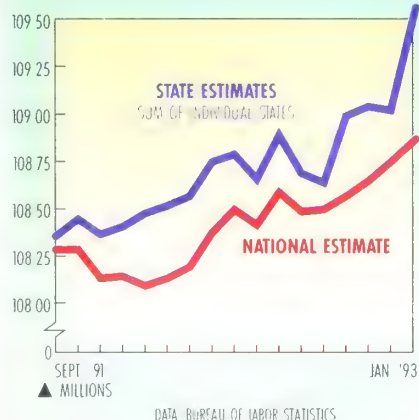
CLINTON'S BUDGET GAP MAY BE SMALLER THAN HE PREDICTS

In the midst of Washington's deficit-cutting fervor, says economist John H. Makin at the American Enterprise Institute, "the best-kept secret in town" is the fact that this fiscal year's federal budget deficit may fall to \$250 billion. That's far below the \$332 billion claimed by the Clinton Administration.

Contributing to the improved budgetary outlook, says Makin, are strong growth from October, 1992, through this spring, lower interest rates, lower unemployment rates, and smaller tax refunds. Economist Lawrence A. Kudlow at Brown Stearns & Co., who also thinks a \$100 billion deficit is achievable, points out that both individual and corporate income tax receipts in fiscal 1993 are more than 11% so far, while net federal outlays, excluding bank deposit insurance, have increased only 3.8%.

While Kudlow believes the economy is strong, Makin thinks it may now be weakening. Thus, he says, if signs of a slowdown emerge this summer and the deficit still seems to be shrinking, there's a good chance that "fake spending" will be substituted for real ones.

JOB GROWTH: MORE ZIP THAN REPORTED



DATA: BUREAU OF LABOR STATISTICS

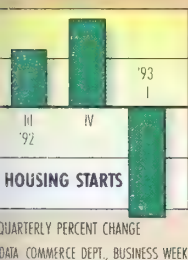
state payroll employment estimates released by the BLS. During the year, the BLS' individual state offices issue their own monthly payroll employment numbers, which don't always jibe with the national total even though they are drawn from the same survey data. Eventually, however, both the state and national numbers are revised to reflect more comprehensive data based on payroll tax records. This has now been done for the state numbers, notes Zandi, and the result is that the aggregate state

HAT FIRST-QUARTER SLOWDOWN WAS FAR FROM A STALL

The U.S. economy is about to get its first comprehensive checkup for 1993. On Apr. 29, the Commerce Dept. will issue its report on first-quarter gross domestic product. The number is unlikely to settle the current debate over the economy's health. On the contrary, it will probably spark even more argument.

By all counts, the first-quarter advance in real GDP looked decidedly subdued, compared with annual growth rates of 3.7% and 4.7%, respectively, in the third and fourth quarters of last year. Right now, economists' expectations generally fall in the range of 2.1% to 3.3%. Based on an accounting of the monthly data, growth toward the lower end of that range seems like the best bet.

WEATHER HAMMERS HOMEBUILDING



lightly, partially offsetting the solid gain in equipment purchases.

Despite the sharp drop in housing starts for the quarter (part), the carry-through from home construction begun earlier allowed homebuilding to make a slightly positive contribution to first-quarter GDP. The deficit in foreign trade widened, however, reflecting a larger drop in exports than in imports. Also, the defense build-down continued to hold back growth in the government sector. Finally, inventories appear to have grown a bit faster than they did in the fourth quarter.

AN UPTURN THAT'S STEADY—BUT SLOW

Especially taken in the context of the economy's recent track record and the battering business took in March from unusually severe weather. Coming on the heels of the strongest two-quarter advance in five years, the first-quarter slowdown is far from a stall.

Of course, weather and other special factors can explain only part of the slowdown. The fact remains that the expansion's first two years have been the weakest of

any postwar upturn. Think of the first-quarter slowdown as an adjustment from the unsustainable pace in last year's fourth quarter, which was overstated in part by post-hurricane rebuilding and related spending.

Even so, the economy's four-quarter growth trend continues to track at about 3%. That's not great, but it's good enough to create jobs at a slow but steady pace, just as the recent firming in the labor markets shows. And with that, all the conditions for a moderate but sustainable expansion are in place.

A LOUDER HUM COMES FROM THE FACTORIES

Despite the downshift in growth last quarter, some of the best signs of the recovery's durability are coming from the industrial sector. The recent performance of manufacturers suggests that the economy is forging ahead on the momentum it picked up last year.

Weather held total industrial output flat in March, but that followed five straight healthy advances. In addition, the Federal Reserve revised the February output figures significantly, upping the increase from 0.4% to 0.6%.

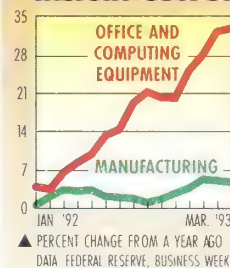
Utility output has picked up in recent quarters, partly in response to the cold winter. But more important, the pace of factory production is accelerating. Despite the weather, manufacturers lifted production by 0.1% in March. Factory output grew at an annual rate of 7.1% in the first-quarter, the fastest quarterly gain in 1½ years. And the growing backlog of unfilled orders suggests that output will remain on an upward course this spring.

The big boost to industrial production has been business equipment. Output of office and computing machinery has soared by 32.4% over the past year, compared with a 4.5% rise for all manufacturing (chart).

The push to increase output per worker—along with a vicious price war among computer makers—is behind the gangbuster pace of high-tech machinery output. The productivity push is the main reason that spending on business equipment was a big contributor to economic growth last quarter. And capital-spending plans surveyed by the Commerce Dept. say that equipment outlays will continue to add to GDP growth this year.

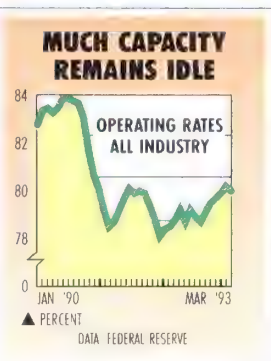
Clearly, the motivation for manufacturers to buy new equipment does not come from capacity constraints. Oper-

WHAT'S LEADING FACTORY OUTPUT



Business Outlook

ating rates for all industry dipped to 79.9% in March, down from 80.1% in February. For factories, the rate slipped to 79.1%, from 79.2%. Operating rates remain below the 83% figure that typically presages production bottlenecks (chart). But that's one reason why pressure on goods prices remains largely absent from the outlook.



Because of firming demand, companies also feel more comfortable about restocking their warehouses. Inventories in manufacturing, wholesaling, and retailing rose by 0.4% in February, following a 0.3% increase in January. But because of rising demand, the ratio of stocks to sales has remained at 1.46 for the past three months. That's the lowest level in 10 years.

The growth in nonfarm inventories probably didn't add much to first-quarter GDP, but gains should continue—and even accelerate—this summer. As long as the backlog of unfilled orders keeps rising, manufacturers especially will feel the urge to add to their stock levels.

HOUSING WILL THAW OUT THIS SPRING

Homebuilding has not had its say this year, either. Housing starts slipped by 4.6% in March, to an annual rate of 1.13 million, but there's nothing wrong with homebuilding that a little warm weather won't cure. The East Coast blizzard disrupted the month's activity, as seen in the 27% plunge in starts in the Northeast and the 14% drop in the North Central region.

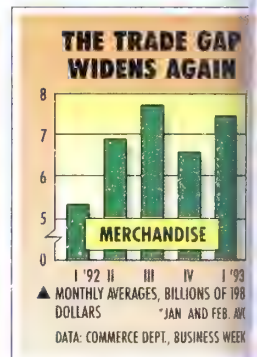
For the quarter, housing starts dropped 6.5% from the fourth quarter, the largest decline in two years—since the depths of the recession. And that occurred despite the lowest mortgage rates in two decades. Weather has prevented those low rates from working their magic, but that should happen in the second quarter with help from

firmer labor markets, better income growth, and home prices that still have not risen much.

All this is not to say that growth in 1993 won't have its obstacles. Despite the coming gains in housing, consumer spending, and investment in equipment and inventory, two stumbling blocks remain: foreign trade and defense. After plunging 6.4% in January, exports rose only 0.1% in February, to \$37.2 billion. And imports were up just 0.2% in February. As a result, the foreign-trade deficit stood at \$7.2 billion, virtually unchanged from January.

So far in the first quarter, the inflation-adjusted merchandise trade gap is running some 13.5% wider than the fourth-quarter average (chart). At that pace, net exports of goods and services appear to have knocked off at least one-half of a percentage point from first-quarter GDP growth. And trade will probably hold back the economy a bit further later in the year, because the growth in imports is once again outpacing that of exports.

In the public sector—about one-fifth of GDP—state and local governments likely spent a lot more last quarter, as many municipalities depleted their weather-emergency funds to cope with snow removal. The long-run decline in Washington's defense budget, however, probably offset some of the increase in spending at the local level. That means public spending wasn't much of a factor in GDP growth in early 1993.



When the GDP data come out, the overall number will be sure to overshadow the individual players such as government outlays and inventories. But the top-line growth rate tells you only where the economy has been. It is the likelihood of continued gains in consumer spending, home buying, business investment, and inventory growth that says where the expansion is headed.

THE WEEK AHEAD

EMPLOYMENT COSTS

Tuesday, Apr. 27, 8:30 a.m.

The cost of wages and benefits paid by nonfarm businesses probably rose by 0.9% in the first quarter, say economists surveyed by McGraw-Hill Inc.'s MMS International. That's the same subdued advance as in the fourth quarter. Wage growth in particular has slowed since the recession ended, because job growth has been almost nonexistent.

GROSS DOMESTIC PRODUCT

Thursday, Apr. 29, 8:30 a.m.

The first-quarter economy probably grew at an annual rate of 2.6%, according to the MMS survey. If so, that would be almost half of the 4.7% growth rate

posted at the end of 1992. Slower consumer spending and a rising trade deficit curbed GDP growth last quarter. Inflation, as measured by the GDP price deflator, likely rose at a 3% annual pace in the first quarter, up from the 2.3% in the fourth quarter.

NEW SINGLE-FAMILY HOME SALES

Thursday, Apr. 29, 10 a.m.

New homes likely sold at an annual rate of 585,000 in March, down from 595,000 in February. Bad winter weather kept many consumers from house-hunting.

PERSONAL INCOME

Friday, Apr. 30, 10 a.m.

The median forecast of the MMS survey projects that personal income rose by

0.3% in March, on top of a 0.2% gain in February. That's suggested by a small gain in weekly pay. Consumer spending, however, is expected to fall by 0.1% in March, after a large 0.6% increase in February. The East Coast blizzard moved into retail shopping, and income-tax refunds in April probably caused some households to save more money in March. But spending on utility services was likely up strongly.

FACTORY INVENTORIES

Friday, Apr. 30, 10 a.m.

Inventories held by manufacturers probably grew by 0.1% in March, the slowest rate of increase as in February. The blizzard may have prevented some factories from shipping out goods.

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FROM BRAINSTORMS TO HEADACHES

CLINTON'S HEALTH-CARE PLANS MAY BE GETTING TOO GRANDIOSE TO FINANCE



President Clinton briefly considers, then rejects, then reconsiders a value-added tax to help pay for his health-care reform plan. Hillary Rodham Clinton rules out taxing employee medical benefits early on, only to be contradicted in a blizzard of leaks suggesting that they may be taxed after all.

With less than 30 days to go on its ambitious mission to remake America's health system, the White House reform drive is in serious trouble. The cause: a benefit scheme so generous that Clintonites can't figure out how to finance their plan without jeopardizing the middle-class support so vital to enactment. After cruising along for weeks, piling up promises without regard to costs, the

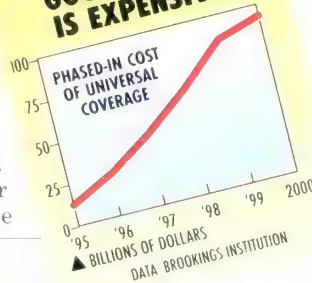
task force suddenly finds itself with a huge gap to fill and only one option with any public appeal at all: more taxes on alcohol and tobacco. "There's a train wreck waiting out there for this process," says a congressional health aide.

The White House's latest flip-flop over the VAT spotlights the Administration's dilemma. Although the President had been backing away from the VAT since February, Health & Human Services Secretary Donna E. Shalala and Deputy Budget Director Alice M. Rivlin praised the

notion on Apr. 14—just as many Americans were filing their tax returns. Vice President Al Gore tried to dampen speculation. But the White House admitted the levy was being mustered to give Republicans a fresh charge to paint Clinton as a spendthrift Democrat.

The confusion over financing health-care reform won't end soon. After months of brainstorming over what blueprint should be adopted, Hillary Clinton's health-care force tried to pin down the cost figure

GOOD HEALTH IS EXPENSIVE



the computers nearly blew up. The consulting firm Lewin-VHI Inc. estimates that the Administration will have to raise taxes by \$47 billion to pay for a new version of its "managed competition" reform. And that doesn't include the generous treatment some task-force members propose for mental illness. Nor does it tally expensive payouts to the private industry—coverage for prescription drugs, nursing homes, and home health care—that may be required to get the bill through Congress. Add it all up, and the tax bill could be pushing \$100 billion.

USING. And the costs go far beyond the tax bill. Task-force sources say preliminary estimates show that requiring employers to offer health insurance could cost as many as 500,000 jobs—the number the Administration claims

the expense or political risk—to ensure they didn't overlook any aspect of the \$900 billion medical industry. Economic aides didn't begin to figure the costs until late in the game. "Now, we're at the point where we can see the big picture and determine the size of the effects," says a senior official. But the process created huge public expectations that the White House now must moderate to make the program affordable.

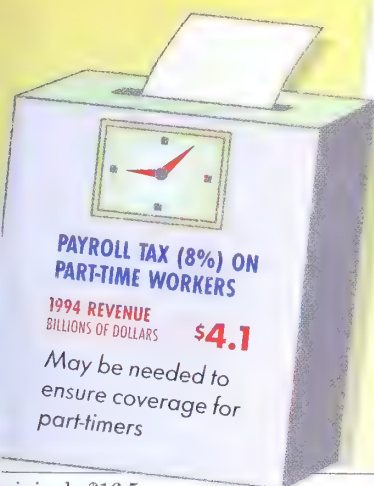
Clinton started out with only the faintest of intentions. Early in 1992, he rejected his campaign advisers' plan for controlled prices and heavy regulation in favor of a managed-competition scheme presented to him by fellow Rhodes scholars Magaziner and Labor Secretary Robert B. Reich.

middle-class Americans most wanted "health security"—assurance that they would be covered if they changed or lost jobs. That increased pressure on Clinton to put a higher priority on expanding access than on controlling costs.

BASICS. Political concerns are driving up the cost of another piece of managed competition—a standardized benefits package for all. Such a "basic benefit" would help consumers shop and force health plans to compete on price and quality. But to garner support from well-insured Americans, the task force has to ensure that they don't lose much of their current coverage.

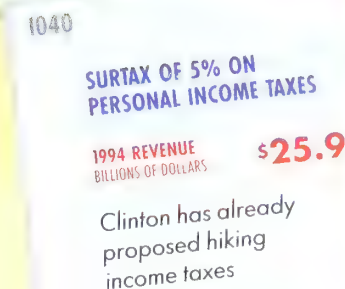
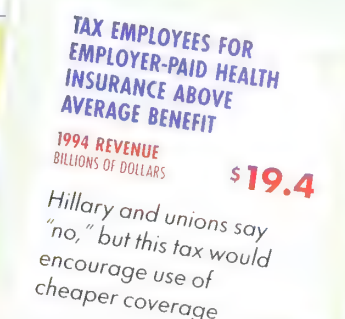
Lewin-VHI estimates that the proposed package would boost employers' aver-

HEALTH-CARE REFORM: HOW TO PAY?



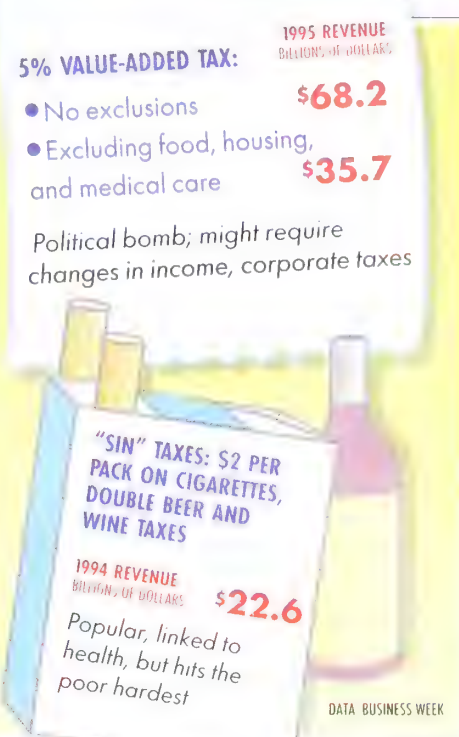
original \$16.5

in stimulus package would have created. Clinton is paying a political price at Capitol Hill, too: Lawmakers, including fellow Democrats, grouse about the loss of information they're handed by task-force staff chief Ira Magaziner. Some aides charge that task-force number-crunchers were low balling some figures. Their estimate for the surge in medical costs from covering 37 million uninsured Americans, for example, was well below the \$30 billion estimated by the Congressional Budget Office. Administration officials argue that the plan will vindicate their approach. Magaziner ordered health maven advisers to consider a wide range of ideas—damn



Based on his study of medical costs in Rhode Island, Magaziner argued that 24¢ to 48¢ of every health-care dollar is spent on paperwork and unnecessary procedures. Managed competition—individuals picking their own health plans through large purchasing cooperatives—could squeeze out that waste and eventually save up to \$200 billion a year, he claimed. Those savings could be used to provide coverage for all Americans.

After the election, the rosy projections began unraveling. Congressional estimators and health economists on Clinton's team argued that managed competition would produce little of the savings from expanded coverage. But polls found that



age annual cost of health insurance from \$1,488 per covered person to \$1,674. That estimate is based on a plan that would require 85% of all employees to pay higher deductibles. The Clinton team, by contrast, is leaning toward low deductibles—which could boost spending by an additional \$5.6 billion—and is still adding benefits to the package. And as the package's costs rise, so does the need to subsidize premiums for small companies, low-wage workers, and the unemployed. Lewin-VHI estimates that such subsidies could total \$97.7 billion.

Lost in the task-force draft proposal may well be Magaziner's best selling point: a long-term reduction in adminis-

IT'S NOT WORKING. WE NEED CHANGE. BUT DON'T COUNT ON IT

Like few other political issues, health-care reform is sparking debate among Americans everywhere. BUSINESS WEEK Correspondent Maria Mallory canvassed Atlantans for their views on managed care, universal insurance, and how to pay for them:



“ I never have much faith in what I hear. It's just more politicking. I think it's highly unlikely you're going to see anything like real reform.”

KAMAU FREELS-BANDELE
Self-employed



“ My father just died from lung cancer. He was on Medicare. The amount [doctors charged] was outrageous. I think there has to be some control of pricing. They gave my father shots that were \$1,300 apiece.”

PHYLLIS SIEGEL
Manager



“ The problem is the doctors are all millionaires, the drug companies are monopolies, and the insurance companies are ineffective. Managed competition just leaves all the current players in place.”

BOB BRAXTON
Auto company employee



“ There probably should be [universal health care], but I think it will be a long time coming. Not in my lifetime. Government is political, and politicians get paid for answers by businesses and lobbyists. It's not going to change.”

JUDIE PERRY
Advertising promotions manager

trative costs. The plan would indeed streamline insurance claims. But to enforce the overall cap on medical spending that Clinton has called for, the task force may propose new bureaucracies. Among them: a federal trust fund that would collect all health premiums and taxes, then reallocate the money to purchasing cooperatives in the states. The machinery to allocate those funds must be built from the ground up. So, too, must be mechanisms to enforce any direct controls, such as premium caps.

Administration officials insist the plan will be cleaned up in time for its unveiling in mid-May. Clinton is meeting daily with task-force leaders to chip away at hundreds of decisions. A crucial choice will be how quickly to phase in the new system: Fast implementation will extend coverage in time for the reelection cam-

paign, but a slower pace will spread out the new tax burdens (chart, page 27).

The VAT has long been popular in Corporate America. A sales-based tax that's assessed at each stage of production and distribution, a VAT would penalize consumption and favor savings and investment. But business support for a VAT hinges on using its revenues to replace existing income taxes, not on layering a VAT on top of current levies. And efforts to ease the VAT's disproportionate impact on the poor would either create many exemptions—cutting into revenues—or open up a broader tax debate that Clinton can ill afford to add to the health-care brawl.

Advocates of managed competition argue for a cap on tax breaks for employer-paid health-insurance premiums. Such a cap would raise revenues and push

Americans toward cheaper, more efficient health plans. But with medical costs and premiums varying across U.S., a tax cap would be hard to administer. And unions are dead against it.

No matter how sharp his pencil, Clinton will face a sizable tax gap, with few attractive options for filling it. In ye past, Franklin D. Roosevelt and Lyndon B. Johnson just ducked the question. Both Social Security and Medicare were launched without the funding needed for long-term soundness. In these deficit-ridden times, though, that option isn't open to Clinton. With so little room to maneuver, the collision between his health promises and the nation's tax phobias could turn into a national train wreck.

By Mike McNamee and Susan Garland, with Paul Magnusson, Washington

WHO PADLOCKED THE HONEYMOON SUITE?

ly because of fierce GOP attacks, Clinton is sinking in the polls

triumphs for Presidents, Bill Clinton is learning, tend to be short-lived. Less than two months ago, a State of the Union address won on hosannas for his economic pro- Now, the President is hearing the stakable sound of Bronx cheers. Polls are dipping, his negatives are , and there's growing speculation the Administration's health-care-re- plan may just make s a lot worse. To compli- matters, issues from Bos- to the cult debacle in , Tex., have clouded his g Presidency.

w unpopular is the Presi- A new survey shows for the first time, the ntage of voters who like vway Clinton is handling b has fallen below 50%). His 49% approval rat- s far below the support ed by Presidents Bush Reagan (67%), and Car- 7%) at the same point in terms. And in a new lin Group poll, the per- ge of Americans who be- the country is "on the g track" jumped from on Mar. 22 to 59% two s later.

ton's political advisers aboring to explain away trends. According to e House pollster Stanley reenberg, Clinton's burst mestic activism, from his rse-Reaganomics" budget to his e on gays in the military, was l to alienate some voters. "We're g with a polarized electorate," he "That's a function of a President wants to do things."

AND TRIMS. But Clintonites also a that relentless Republican attacks, a have stalled his economic stimulu in the Senate, have taken their toll. ough the GOP risks tarring itself as arty of gridlock, the assault on on's plan as a "tax and spend" poli- s raised the President's negatives. Republicans have done something y unprecedented," says Clinton ad- Paul Begala. "They have given him of the traditional honeymoon." en supporters acknowledge that the dent may have been too cautious in

his approach to the budget deficit. By offering a plan that merely trims federal programs, Clinton failed to win over many of the 19 million Ross Perot voters. "People would like to see some more seriousness," says political scien- tist Samuel L. Popkin of the University of California at San Diego. "He could have gone farther." With Perot acting as a stern deficit watchdog, many of the

week goes by without a Presidential speech or trip to highlight another initia- tive—from education reform to defense conversion, from national service to a timber summit. But Clinton's frenetic scurrying around has kept him from con- centrating on the most important issue of all: the economy. "Bill Clinton is do- ing too much too quick, and he's losing his focus," says GOP pollster Ed Goeas. "That is starting to make people ques- tion whether anything will get done."

BAD BOUNCE? Depending on which camp you listen to, the planned May 17 unveil- ing of the Administration's health plan will either mark the revival of Clinton's political fortunes or the acceleration of a long decline. Although the plan will surely feature tax increases and restric- tions on medical choice, Clintonites are convinced that voters are ready for bold measures.

The key to success, Clinton strategists say, is persuading the middle class that guaran- teed health security is worth making sacrifices for. "When President Clinton called for higher taxes [in February], he didn't drop 10 points, which is what you would normally ex- pect," Greenberg says. "I sus- pect that when we present our health-care program, the same thing will happen. After voters see that this guy really wants to change things for the better, his numbers will actually bounce up."

Maybe. But Republicans doubt the bounce will last long. They expect health care to be a major downer for the President. "Eventually, his numbers will nosedive," says Republican pollster Anthony Fabrizio. He thinks the pub- lic's mood will shift after the GOP attacks the plan's reliance on "big spending, big govern- ment, and more regulation."

Even if a determined Clinton lobbying blitz wins passage of major elements of a reform program this year—a big if—the Republicans are poised to strike. Clinton has promised not only to provide universal health coverage but to save business and taxpayers billions in the process. "There's a clear expectation that health-care costs will be brought down," says the GOP's Goeas. "If costs are still rising at the next election, he will have failed."

None of this carping fazes Clinton, who, just three months into his term, is acting like a man running out of time. The way his poll numbers are going, he may be on to something.

By Susan B. Garland, with Lee Walczak, in Washington



SAMPLE (SHOWS THE FLOOR ON TIMES-UNION) KING FEATURES-SQUADRON

CLINTON'S 100-DAY BLUES

PERFORMANCE RATING	JAN. 28-29	FEB. 18-19	APR. 8
APPROVE	51%	57%	49%
DISAPPROVE	32	31	36
NO OPINION	17	12	15

DATA: PRINCETON SURVEY RESEARCH, NEWSWEEK

independent voters who might be at- tracted to Clinton's policies are remain- ing standoffish. "There is this clutch of voters loaded for bear and ready to say 'no,'" says Bruce Kuklick, a University of Pennsylvania historian.

The high command at the White House believes that a whirlwind of activ- ity will convince skeptical voters that Clinton is committed to change. Hardly a

The Republicans expect health-care reform to be a major downer for the President

FIRST-QUARTER EARNINGS: PROFITS STAY ON TRACK

Corporate America shows signs of life in BUSINESS WEEK's flash report

Economic recovery continues, and so does the recovery in company earnings. In BUSINESS WEEK's flash report of corporate profits, sales were up 6% and profits increased 11%, extending the trend of the past four quarters. There's still no meteoric burst of revenue growth, and prospects for such an explosion seem more and more unlikely, given the present environment of low inflation and interest rates. More substantial returns are visible once IBM is taken out of the mix; earnings would have increased 19%, and sales would have inched up 7%. How did Wall Street analysts do in their projections? The expectations proved right on target: The 71¢ aggregate earnings per share predicted at mid-quarter was one cent more than the 70¢ actually reported.



INVESTMENTS

GNATS WITH THE KNACK

Nervy discounters and smaller chains go on growing as giants sag

The Limited. Kmart. The Gap. One by one, their stocks have fizzled and floundered. On Apr. 14, finally, it was time for Wal-Mart Stores Inc. to confront Wall Street's lofty expectations. Clunk! Shares of the retail titan dropped 6%, to \$27.25, as it reported weaker-than-expected sales in March and acknowledged that, for the first time in 80 years, it would not post double-digit same-store sales growth.

As the full scope of President Clin-

ton's economic program is unveiled, retailing analysts fret that consumers will stop spending. The data is not very comforting: Retail trade in March was down 1% from the year before, a drop the industry blamed on lousy weather. And while giant chains, such as Wal-Mart and Home Depot Inc., are still growing fast, they may be running out of room to add stores without cannibalizing existing units.

Even as the industry leaders run into trouble, though, new retail stars are scoring big earnings gains—and catching on with investors (chart). Amid the first-quarter gloom, smaller specialty retailers and “off-price” outlets turned consumers’ drive for value into healthy profits. “The companies that will be attractive in the retailing sector are those that are very focused and conjure up the image of one product line—not 15 different things,” says retail consultant Wal-

ter F. Loeb, president of Loeb Associates Inc.

Take Bed Bath & Beyond Inc., a co of 38 stores featuring moderately priced home furnishings. For its year ending Feb. 28, the chain should post net earnings of \$20.1 million, up 26% from a year earlier, on sales that jump to \$278 million from \$217 million, says Heidi S. berg, an analyst at Shearson Lehman Brothers Inc. Since it began trading \$17 last June, the company's stock has risen to 32%.

TOP OF THE HEAP. Discount department stores, such as Caldor Corp. and L. Lees Inc., have scored by offering an array of goods at low prices. Extensive store-remodeling plans and a shift toward such fast-growing soft goods as apparel augur well for the chains, analysts say. “These are companies that have good, upscale offerings at low prices,” says Edward Johnson, director

Current
qtr. sales

INDUSTRIALS 95,730.9

ABBOTT LABORATORIES	2,045.6
ALCOA	2,109.6
AMERICAN HOME PRODUCTS	2,111.0
AMOCO	6,978.0
AVON PRODUCTS	841.9
BRISTOL-MYERS SQUIBB	2,755.5
CHAMPION INTERNATIONAL	1,267.0
CHRYSLER	10,900.0
COCA-COLA	3,056.0
COOPER TIRE & RUBBER	280.1
COORS (ADOLPH)	296.0
CORNING	823.4
CPC INTERNATIONAL	1,636.2
DANA	1,323.5
ETHYL	829.0
GENERAL ELECTRIC	12,900.0
GEORGIA-PACIFIC	2,944.0
GILLETTE	1,216.6
INTERNATIONAL PAPER	3,400.0
LILLY (ELI)	1,560.0
LUKENS	257.1
MCDONNELL DOUGLAS	3,620.0
MERCK	2,379.6
MONSANTO	1,941.0
PHILIP MORRIS	15,189.0
PPG INDUSTRIES	1,446.7
REYNOLDS METALS	1,230.7
RUBBERMAID	483.7
SHERWIN-WILLIAMS	618.3
TELEDYNE	636.5
TENNECO	3,247.0
U.S. SURGICAL	326.3
UPJOHN	932.7
WEYERHAEUSER	2,341.0
WHIRLPOOL	1,808.0

SERVICES 35,521.6

AMR	3,814.0
BLOCKBUSTER ENT.	391.1
BURLINGTON NORTHERN	1,170.0
CAPITAL CITIES/ABC	1,178.3
CITICORP	NA
CONSOL. FREIGHTWAY	993.0
FOOD LION	1,656.8
HCA	1,324.5

% chg.	Est. EPS (2/18)	Reported EPS	Diff.
+30	0.77	0.77	—
+17	0.40	0.41	+0.01
-50	0.48	0.31	-0.17
+180	1.30	1.29	-0.01
-25	0.77	0.46	-0.31
NM	0.35	0.34	-0.01
+8	1.16	1.11	-0.05
NM	-0.39	-0.38	+0.01
NM	1.12	1.57	+0.45
+18	0.34	0.35	+0.01
+34	0.40	0.30	-0.10
NM	0.10	0.12	+0.02
-23	0.36	0.26	-0.10
+5	0.61	0.58	-0.03
+63	0.57	0.51	-0.06
+15	0.21	0.61	+0.40
+13	1.32	1.27	-0.05
NM	-0.12	0.47	+0.59
+10	0.64	0.64	—
-38	0.63	0.52	-0.11
-16	1.58	1.27	-0.31
+18	0.61	0.39	-0.22
+795	NA	4.58	NA
+10	0.56	0.54	-0.02
-3	1.07	1.17	+0.10
+11	1.42	1.38	-0.04
+40	0.83	1.04	+0.21
NM	-0.13	-0.55	-0.42
+87	0.31	0.31	—
+19	0.16	0.15	-0.01
+186	0.25	0.61	+0.36
+111	0.38	0.46	+0.08
+21	0.65	0.61	-0.04
+11	0.82	0.85	+0.03
+105	0.41	0.87	+0.46
-49	0.67	0.25	-0.42
+24	0.52	0.65	+0.13
NM	-0.66	-0.43	0.23
+53	0.20	0.20	—
-10	0.77	0.86	+0.09
+69	3.94	4.29	+0.35
+102	0.36	0.71	+0.35
NM	0.03	0.10	+0.07
-56	0.08	0.05	-0.03
+49	0.60	0.64	+0.04

	Current qtr. sales	% chg.	Current qtr. profits	% chg.	Est. EPS (2/18)	Reported EPS	Diff.
MARRIOTT	2,080.0	+7	19.0	+73	0.11	0.14	+0.03
MERRILL LYNCH	3,963.1	+16	342.4	+24	2.04	3.02	+0.98
NATIONSBANK	NA	NA	281.0	-9	1.46	1.10	-0.36
OFFICE DEPOT	582.1	+34	14.1	+51	0.21	0.23	+0.02
PAINWEBBER	930.7	+6	70.9	-5	0.82	1.33	+0.51
PRIMERICA	1,302.3	-2	207.0	-6	1.37	1.19	-0.18
ROADWAY SERVICES	856.1	+7	20.3	-34	0.85	0.51	-0.34
SCHWAB (CHARLES)	270.0	+2	35.4	+19	0.65	0.90	+0.25
SEARS, ROEBUCK	11,297.8	-5	317.0	+144	0.86	0.82	-0.04
SOUTHWEST AIRLINES	453.8	+21	22.7	+68	0.22	0.24	+0.02
TIME WARNER	3,258.0	+8	-15.0	NM	-0.28	-0.33	-0.05
WELLS FARGO	NA	NA	108.0	-9	1.37	1.72	0.35
TECHNOLOGY	33,365.5	+7	1,391.4	-22	0.52	0.52	—
ADVANCED MICRO DEVICES	407.4	0	61.5	-28	0.54	0.63	+0.09
APPLE COMPUTER†	1,973.9	+15	110.9	-18	1.05	0.92	-0.13
CONNER PERIPHERALS	558.3	+27	-22.5	NM	0.60	-0.46	-1.06
COMPAQ COMPUTER	1,611.4	+106	102.4	+126	1.11	1.23	+0.12
GENENTECH	153.0	+19	14.3	+305	0.05	0.12	+0.07
IBM	13,058.0	-7	-285.0	NM	-0.29	-0.50	-0.21
INTEL	2,023.6	+63	547.9	+198	2.06	2.48	+0.42
MICROSOFT††	958.0	+41	243.0	+36	0.78	0.80	+0.02
MOTOROLA	3,626.0	+19	204.0	+63	0.63	0.75	+0.12
RAYTHEON	2,204.0	+4	157.5	+10	1.16	1.16	—
SUN MICROSYSTEMS	1,141.3	+20	51.7	-16	0.62	0.47	-0.15
TEXAS INSTRUMENTS	1,884.0	+11	85.0	+113	0.76	0.89	+0.13
UNISYS	1,907.5	-5	56.8	+18	0.16	0.16	—
WESTINGHOUSE ELECTRIC	1,859.0	0	64.0	-2	0.16	0.15	-0.01
UTILITIES & TELECOM	49,802.3	+3	3,999.8	-5	0.79	0.69	-0.10
AMERICAN ELECTRIC POWER	1,321.0	+2	133.1	+2	0.76	0.72	-0.04
AMERITECH	2,796.5	+4	300.0	-11	1.24	1.11	-0.13
AT&T	15,719.0	+2	996.0	+13	0.75	0.74	-0.01
BELL ATLANTIC	3,163.3	+2	372.2	+7	0.84	0.85	+0.01
BELLSOUTH	3,833.7	+3	411.2	-11	0.89	0.83	-0.06
ENRON	1,838.6	+23	148.2	+28	1.18	1.21	+0.03
GENERAL PUBLIC UTILITIES	881.2	-1	79.3	+8	0.73	0.72	-0.01
GTE	4,826.0	0	460.0	+17	0.51	0.48	-0.03
NYNEX	3,320.2	+3	331.1	-2	1.62	1.60	-0.02
PACIFIC TELESIS	2,525.0	+4	2.0	-99	0.72	0.00	-0.72
SCECORP	1,785.0	+4	159.4	-5	0.72	0.67	-0.05
SOUTHWESTERN BELL	2,457.8	+7	302.5	+16	1.05	1.01	-0.04
SPRINT	2,718.0	+9	-11.3	NM	0.50	-0.03	-0.53
US WEST	2,617.0	+3	316.1	0	0.79	0.76	-0.03

NA—not available NM—not meaningful †Second-quarter results ††Third quarter results
DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC., INSTITUTIONAL BROKERS ESTIMATE SYSTEM, BW

Johnson Redbook Service, a retail apparel research firm. Johnson estimates Caldor will show an annual growth rate of 20% in earnings. In fact, the company reported profits of \$34.5 million, up from \$2.3 million, on sales of \$1 billion for its fiscal year ended Jan.

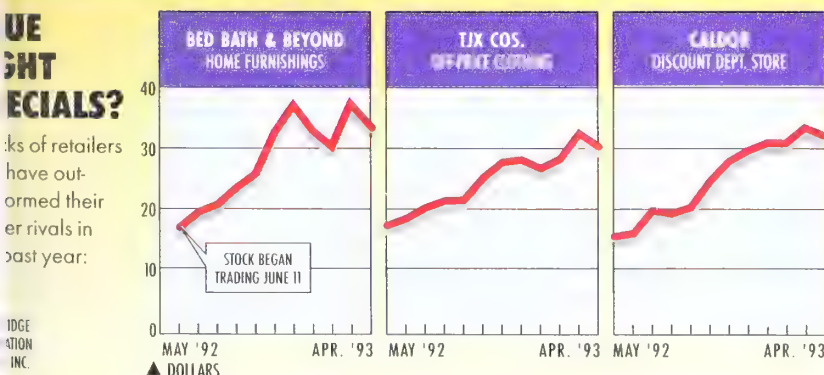
30. That's one reason its shares have doubled in the last year, to 30%.

Then there are Ross Stores Inc., T.J. Maxx, and other off-price outlets that offer up to 50% savings on specialized merchandise. Analyst Jeffrey B. Edelman of C.J. Lawrence Inc. expects Ross

to post profit growth of 20% annually. With 223 off-price retail outlets in 18 states, Ross reported net earnings of \$34 million, up 23%, for the year ended Jan. 30, on sales of \$1.04 billion.

Don't write off the biggest retailers. Once consumer spending picks up, analysts believe, the giants could show new vigor. Sears, Roebuck & Co. has already done so: On Apr. 20, its merchandise group reported profits of \$64 million vs. a \$24 million loss a year ago. And Wal-Mart remains squarely at the top of its heap—even if its sheer size may hinder growth. "Wal-Mart has established a difficult standard for itself," says Kurt Barnard, president of *Retail Marketing Report*, a newsletter. That leaves room for the smaller guys—though maybe not a lot. Wal-Mart's stock may have faded, but its stores don't show any sign of following suit.

By Sunita Wadekar Bhargava in New York



THE MICROSOFT PROBE LOOKS LIKE A BUST FOR THE TRUSTBUSTERS

The FTC won't file a suit—and it could drop the whole matter

With their three-year-old probe of Microsoft Corp.'s business practices in limbo, staffers at the Federal Trade Commission could use a little levity. So their spirits were lifted by a recent *National Enquirer* "exposé" detailing Microsoft Chairman William H. Gates III's computerized courtship of his fiancée, company executive Melinda French. The story said French received Gates's proposal as an electronic message, delivered at the end of an interactive computer game. Microsoft officials dismissed the tabloid's "bombshell" as pure nonsense. No matter. A few FTC staffers have posted the story on their office doors. Says one staffer: "It gave everyone around here a good chuckle."

But Chairman Gates may have the last laugh. Nearly three months have passed since four FTC commissioners were deadlocked over a staff recommendation that a federal antitrust complaint be brought against the software giant. Now, it looks as if Microsoft may walk away from the probe in better shape than anyone had expected. "It's less of a case than it was before," says one FTC official.

The commission has ruled out bringing a federal court complaint, staffers say. That means when the FTC next considers the case—perhaps in June—its choices will be narrow. The commission could drop the matter entirely, or it could seek to negotiate a consent agreement under which Microsoft would refrain from some practices. But Microsoft could reject such a pact. If so, the FTC could launch an administrative proceeding that could drag on for years—and the issue could be moot by then. "Microsoft is in a very strong position right now and may have already won," says Terry Calvani, a former FTC commissioner.

DEADLOCK. If the commission does decide to proceed, the heart of its case could likely be a charge that Microsoft builds features into its software for the sole purpose of creating incompatibilities with other products. The FTC's Bureau of Competition is now collecting examples of this. Microsoft Vice-President

Brad A. Silverberg denies that the company makes arbitrary changes to its programs and calls such ideas "scurrilous charges without any basis."

But FTC insiders suggest one case in point: Novell Inc.'s DR-DOS operating system is a struggling alternative to Microsoft's MS-DOS. When Microsoft produced a version of its Windows 3.1 program last year, it wouldn't run with DR-DOS



GATES: HIS RIVALS COULD STILL SUE

6.0. Novell had to scramble to fix the problem. Silverberg says it's not Microsoft's duty to assure that DR-DOS is compatible with its software.

The FTC's effort to compile new evidence comes in response to a request for more information by Commissioner Mary Azcuenaga, seen as the key swing vote in any decision to proceed. Staffers delivered some data on Apr. 6 and are expected to produce more by the end of May.

By seeking to bolster its case against Microsoft, the FTC staff appears to have shifted its focus. It now looks less likely, sources close to the probe say, that the FTC will pursue what was considered a few months back to be the heart of its case: a charge that Microsoft restrained trade by offering big discounts to com-

puter makers that would agree to pay fee for every computer they ship, even they don't install MS-DOS and Windows on each machine. One FTC official says staff lawyers believe that the contract don't necessarily violate the law.

Such complexities have the FTC in gridlock. In February, the commission spent nearly an hour haggling over a two-sentence press release that didn't even mention Microsoft by name. Two commissioners want to bring action, but two, including Azcuenaga, don't believe they have the goods to proceed. The fifth member, Roscoe B. Starek III, has recused himself, citing a financial conflict. "The commission is paralyzed," says an agency insider. "They're having a tough time deciding what's worse: closing the case or bringing a case."

SAVING FACE. A lack of clear signals from the Clinton Administration on antitrust may not be helping matters. President Clinton has yet to appoint a Justice Dept. antitrust chief. Moreover, barring a resignation, Clinton won't get a chance to appoint a FTC commissioner until September, 1994. For the FTC, perhaps the ideal end to the saga would be a consent agreement. That would give the commission something to show for its work. Indeed, the FTC may be willing to accept any deal just to save face. "If I were Microsoft and the issue was fairly narrow—name incompatibilities—I would take consent," says a senior FTC lawyer.

Microsoft, however, may not want the stigma of a consent agreement. William H. Neukom, Microsoft vice-president for law and corporate affairs, declined to comment on the possibility of a consent decree. He did, however, say: "It appears as though the issue have narrowed somewhat."

If the FTC can't shake itself loose from its deadlock, Microsoft would be left to worry about possible legal

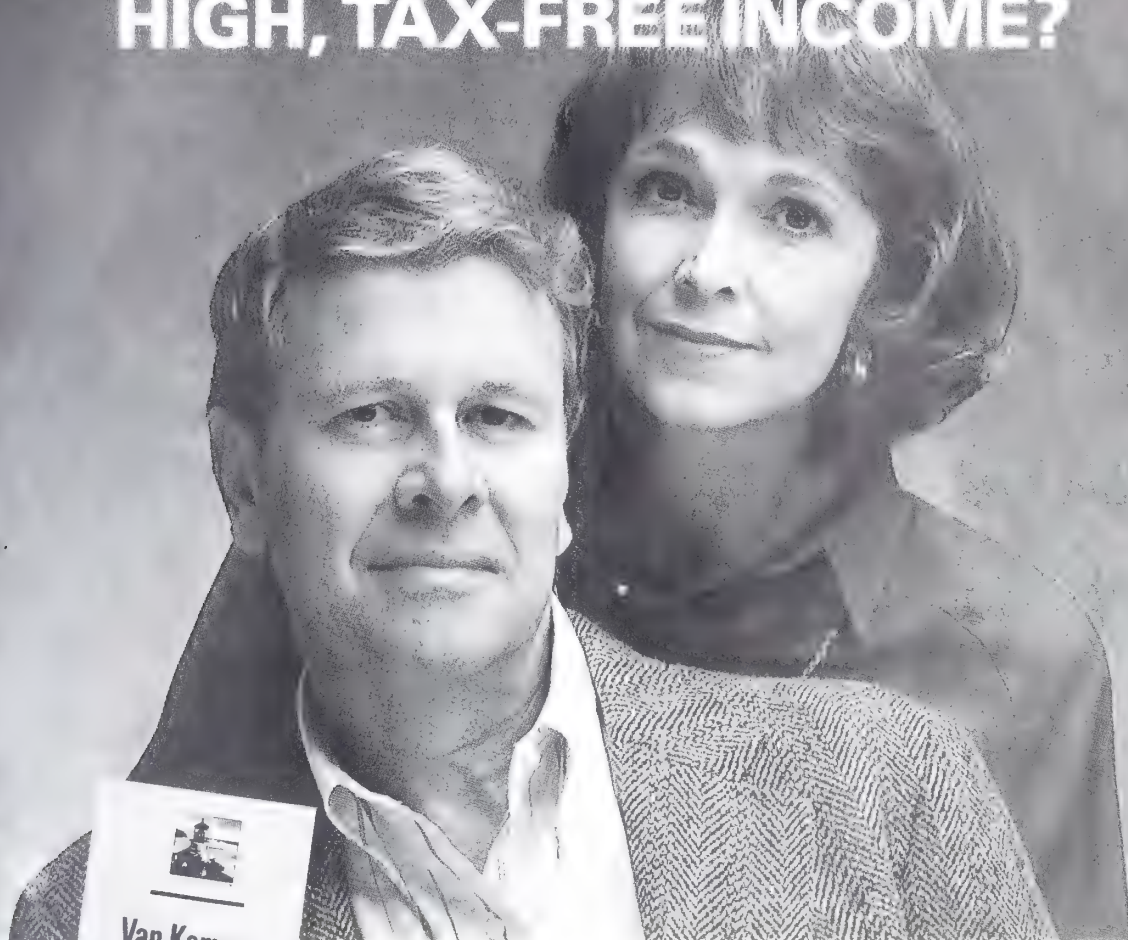
suits from competitors. Software rivals such as Novell, Borland, and Lotus continue to discuss the possibility of a joint civil antitrust suit. Other rivals are reluctant. "This industry is not going to win against Microsoft by suing, but by being better than Microsoft," says a rival's attorney. If there's no private suit and no FTC action, Gates would have more to celebrate than his engagement.

By Mark Lewyn in Washington, and Kathy Rebello in San Francisco



AZCUEGAGA: A KEY SWING VOTE ON THE FTC

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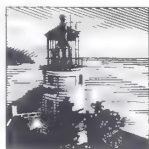
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Commentary/by Peter Coy

TWO CHEERS FOR CORPORATE COLLABORATION

Are America's big corporate rivals making peace? It seems that way. Fifteen U.S. and European pharmaceutical companies said on Apr. 20 that they plan to share information to help fight AIDS. Separately, American business is backing a bill that would make it easier for rivals to own factories jointly and share the output. And the Big Three auto makers are considering whether to team up on a pollution-free electric vehicle.

The idea of sharing costs and risks on big projects has enormous appeal. Maybe that's why executives sound reborn when they talk about their new technology-sharing alliances. "We hadn't talked to these people at other companies for a long time," says one member of an auto-industry partnership. "Now, we feel that they're part of the team."

But all may not be well. Cooperation among rivals is growing so swiftly that it threatens to sweep aside good sense. One risk is that rivals may be tempted to collude in boosting profits by restraining production, raising prices, and squelching threatening new technologies. There's also the danger that even companies with the best of intentions may find that too much rapprochement robs their inventiveness and zeal to win. Free-for-all competition may seem like wasteful duplication, but there's no better way to generate new ideas.

STRANGLING. Although a wide variety of industries now collaborate on technology, the Big Three provide the clearest guide to the perils that await. General Motors, Ford Motor, and Chrysler have set up 10 consortiums to research everything from less-polluting paint to more humanlike crash dummies. Several are doing good work. A consortium that includes oil companies tested nearly 100 exotic blends of gasoline on cars of all vintages. For the first time, it proved that reducing sulfur in gasoline is the easiest way to cut the pollution that the fuel causes. Says

consortium Co-Chairman Joseph M. Colucci, a GM executive: "It's the most exciting thing I've ever worked on."

Still, the red tape can be strangling. Take, for example, the U.S. Advanced Battery Consortium. Since its founding in 1991, the consortium has disbursed just \$81 million of the \$264 million in government and industry money that is supposed to be spent on creating a battery for an electric vehicle. "The bureaucratic grist mill is almost unimaginable," says one battery company ex-

hibition that didn't expire until 1987.

The next frontier—joint manufacturing—will open new opportunities for abuse or bungling. All of the Big Three have deals with foreign automakers, and they want to do more with one another. Soon they probably will. Congress is likely to pass a bill this session to lower antitrust barriers to such ventures. It would reduce penalties on owners of joint ventures that are found guilty of antitrust behavior and make it easier for them to defend themselves. President Clinton has endorsed the bill, as has the National Association of Manufacturers.

WORLD-BEATERS. Is anyone skeptical? At least one senator is: Howard M. Metzenbaum (D-Ohio) was the lone dissenter when the Senate voted 96-1 last year for a similar measure. He says that antitrust laws already allow joint ventures that promote, not restrain, competition. He cites Michael E. Porter of Harvard business school, who says that companies become world-beaters by first competing vigorously at home.

Don't buy the argument that cooperation is necessary to meet the Japanese head-to-head, either. Japanese companies don't collaborate nearly as much as most Americans believe. Nissan Motor Co. and

Toyota Motor Corp. didn't even discuss making an electric car jointly until they learned that the Big Three were considering it. Even now, says one executive, a Japanese deal is unlikely. "We would never expose our strengths and weaknesses at this stage," he says.

Collaboration between rivals does have a role in an era when research and manufacturing have become hugely expensive. But as companies grow cozy, the government has to police against antitrust abuses. And the companies must ensure that cooperation makes their ability to compete in world markets stronger, not weaker.

Coy covers technology for BUSINESS WEEK.



ecutive. Chairman Robert L. Davis responds that the consortium has had to be a pioneer in government-industry partnership. "We're not happy with how long it's taking," he adds, "but there are a lot of people to satisfy."

Past cooperation by the Big Three has hardly produced a cornucopia of invention. In 1969, the Justice Dept. sued the auto companies and American Motors Corp. over their joint work on pollution controls, charging that they "collectively did all in their power to delay such research, development, manufacturing, and installation." The civil antitrust suit was settled when the auto manufacturers, without admitting wrongdoing, agreed to stop working together for 18 years—a pro-

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SUCCESSIONS



AMONG THE GOALS SET BY COOPER: STREAMLINE OPERATIONS AND FORGE STRATEGIC ALLIANCES

AT UPJOHN, A GRIM CHANGING OF THE GUARD

Ley Smith inherits the problem-plagued drugmaker at a critical juncture

For Robert Farmer, the crisis at Upjohn Co. hit home in late March, during a Saturday brunch at the Kalamazoo Country Club. That's when he spotted Theodore Cooper, Upjohn's chief executive, frailly entering the dining room. It became clear then that the 64-year-old Cooper was losing his battle against bone marrow cancer. "It was sad to see him like that," recalls Farmer, a former Upjohn materials manager.

For Upjohn, Cooper's sudden decline couldn't come at a worse time. Cooper, the company's first CEO from outside its founding family, was trying to get the 107-year-old pharmaceutical giant through a rough period of lackluster growth, aging products, and rising public furor over health-care costs. But on Apr. 14, he was admitted to the University of Virginia Hospital, suffering from severe respiratory problems.

With its chieftain gravely ill, the Kalamazoo (Mich.) company is scrambling to adapt. Cooper has kept his CEO title, but Ley (pronounced Lee) S. Smith, 58, a 35-year Upjohn veteran, has taken over his duties. The question now: Can Smith consolidate his power while forging a turnaround?

Smooth going is far from assured. In choosing Smith, Upjohn's board defied speculation that William U. Parfet, the charismatic 46-year-old president and great-grandson of founder W. E. Upjohn, was the heir apparent. For now, even Parfet's father, R. T. "Ted" Parfet, who was once Upjohn's chief executive and remains an influential board member, seems to agree that the younger Parfet isn't ready to run the company.

GETTING SENTIMENTAL. Parfet junior is playing the good soldier. He's content, he says, with being promoted to vice-chairman. Even though two other executives hold that title and his duties—running the company's health businesses, worldwide manufacturing, and finance—remain the same, he says that he's "close enough to the top [to] influence change and direction."

But some insiders expect Parfet to

grow restless. Last year, an employee asked him if he was looking forward to a seat in Upjohn's corner office. Parfet got sentimental, launching into a speech that ended with him heartily caressing his stomach and conceding: "It would make me feel real good inside." Even today, Parfet says: "If someday I'm tapped to run the company, I should be delighted."

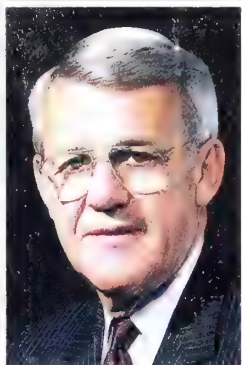
The people-oriented Smith, meanwhile, will have a hard time emulating Cooper's intensity. Smith endears himself to company underlings with a steel-trap memory for names and details, while Cooper's intense and serious-minded nature earned him a reputation as a workaholic. Indeed, even as his health began to deteriorate, it wasn't uncommon for employees to see Dr. Cooper, as he was known, tooling around Upjohn in an electric cart hours after colleagues had gone home.

GAP YEARS. Smith vows to stay on the course Cooper has followed since taking Upjohn's helm in 1987. "As far as I'm concerned," says Smith, "he's still the chairman and chief executive." That means maintaining Upjohn's push to develop new products, forge strategic ties with other drugmakers, streamline operations, and cut the time it takes to get drugs through the FDA.

Still, Upjohn faces tough times ahead. Four of the company's leading products lose patent protection by mid-1994 (chart). And the Clinton Administration push to control health-care costs may squeeze earnings. Smith concedes that "1994 will be a difficult year." But like Cooper before him, he downplays the impact of losing patent protection, saying: "We would have been damned if we hadn't been planning for that."

Even with the patent expiration Smith says, "we're not expecting anything less than a respectable year." Last year, earnings slid about 30%, to \$3 million, on revenues of \$3.6 billion, due to accounting changes and restructuring charges, plus eroding sales of the sleeping aid Halcion. Upjohn's earnings are expected to rise slightly this year from that weak base. But further out, says analyst Sharon Dors Wagoner of Argus Research Corp., "the company's new product potential does appear to offset patent expiration. That's a bitter pill to swallow—no matter who is running the show."

By Ron Stodghill
in Kalamazoo, Mich.



SMITH WILL CARRY OUT COOPER'S MAKEOVER

UPJOHN'S DOSE OF REALITY

Products losing patent protection by May, 1994

Drug	1992 sales Millions	Percent of total sales
XANAX	\$650	18%
MICRONASE	267	7
HALCION	131	3
ANSAD	152	4

*Includes some Glynase sales

DATA: ARGUS RESEARCH CORP.



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SCANDALS

FIAT'S RIGHT TURN

Coming clean on alleged bribes should let it refocus on carmaking

In nearly two decades as chief executive of auto giant Fiat, Cesare Romiti has earned a reputation as Italy's toughest boss. But neither Romiti's legendary fights with Fiat's feisty unions nor his marketplace brawls with such rivals as Volkswagen and Peugeot could have prepared him for what associates say has been the most difficult decision of his long career: going before Italian magistrates in Milan on Apr. 21 to detail illegal payments made by Fiat to leading Italian politicians and their parties.

In fact, the 69-year-old Roman executive had little choice. Just as Fiat is locked in a desperate struggle to stay competitive, it was being sucked deeper and deeper into the anticorruption investigation that is reshaping the political and economic face of Italy. By testifying, Romiti, who is not under investigation, hopes to contain the damage and free his managers to concentrate on solving the business problems dogging Italy's largest company.

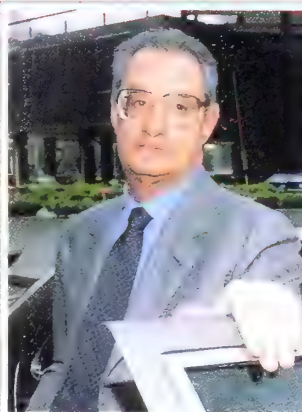
OUT OF TOWN. To date, nine of Fiat's top executives have been implicated in alleged bribes, and the company says five have admitted wrongdoing. The scandal started a year ago, when the head of a Fiat construction subsidiary was jailed

on charges of paying bribes for work on Milan's public transportation system. In February, two more executives, including the group's chief financial officer, were arrested on corruption charges, and *carabinieri* raided the executive suites of Fiat's Turin headquarters. Then, on Apr. 7, magistrates issued an arrest warrant for chief operating officer Giorgio Garuzzo, who is out of the country.

That, insiders say, forced Fiat—which had staunchly denied wrongdoing—to change its tune. On Apr. 17, Chairman Gianni Agnelli confessed before a Venice meeting of top industrialists and politicians. "We have all made mistakes," the 71-year-old told the hushed crowd. "Even in Fiat, some episodes have been verified of illegal collusion with the political system."

Given the other troubles it faces, Fiat needs to get the scandal behind it as quickly as possible. Delicate negotiations to bring in France's Renault as a strategic partner in Fiat's auto division are now said to be on hold. Meanwhile, the European car market is in a tailspin: Industry sales plunged more than 17% in the first quarter. Fiat, with an aging model lineup, is shutting down production as its share of the key Italian market has slumped to a record low of 44%.

To fight back, the company is implementing a huge investment program to modernize and churn out new models.



CEO ROMITI SPOKE UP AFTER HIS NO. 3 EXEC WAS CHARGED

This year, investments are pegged at \$4 billion. A lot is riding on how quickly Fiat can win acceptance for its sleekly styled new compact scheduled to be unveiled at next September's Frankfurt Auto Show.

But finding the right people to run Fiat could be the group's biggest challenge. The success scenario planned for 1994, when both Romiti and Agnelli were due to retire, will probably now be reworked. Under

the plan, Garuzzo was to have succeeded Romiti as CEO, while 58-year-old V.I. Chairman Umberto Agnelli would have taken over brother Gianni.

Now, say Fiat insiders, changes at the top could accelerate. One plan under consideration is said to involve bringing in as CEO an outsider—possibly Romano Prodi, the former head of state holding company IRI. Or Umberto Agnelli might take over both as chairman and CEO.

Surprisingly, the markets are cheering the prospects of change at Fiat. Shares, already up 50% this year, jumped an additional 5% when the company said it would cooperate with prosecutors. And with 82% of Italians voting to reform the country's outmoded electoral system in a key national referendum on Apr. 20, optimism seems to be returning to Italy as a whole. Both the courts and its most important company look to be if they're serious about cleaning house.

By John Rossant in Rome

WORKPLACE

BIG IDEAS FOR LITTLE GIRLS

A national day for parents to bring them to work may inspire careers

Accompanying Mom to the office is no big deal for 14-year-old Erika Self. She has been roaming the halls of Warner-Lambert Co.'s Morris Plains (N.J.) offices since she was just a toddler. But when she returns on Apr. 28 with her mother, Evelyn Self, Warner-Lambert's director of community affairs, Erika will have plenty of company.

The reason? Take Our Daughters To Work, an event sponsored by the Ms. Foundation for Women. Originally intended to be a pilot project in New York



OFF TO THE SALT MINES: ERIKA SAYS GOOD-BYE FOR THE DAY TO HER MOTHER, EVELYN

City, the program has surprised its organizers by winning enthusiastic support across the country. Erika will be among an estimated 500,000 girls aged 9 to 15 who will trail mothers and fathers into corporate offices and government agen-

cies in search of a glimpse of the work world. Plenty of big companies plan to welcome the girls with open arms, including NYNEX, Johnson & Johnson, Nike, DuPont, and Ford.

OIL CHANGES. Many employers are going further than simply putting out a welcome mat. After attending workshops, the 90 girls expected to visit Liz Claiborne Inc. will join teams to develop a fashion collection. At *People* magazine, 60 girls who are scheduled to work on Macintosh computers will design a *People* cover. They also participate in a photo contest and write stories about their experiences. The winning story and pictures

will be part of a miniature *People* magazine that will be sent to all participants.

But the program has caught on beyond New York publishers and fashion houses—both of which are big employers of women. At the Ford Motor

gn center in Dearborn, Mich., 143
are expected to design cars on com-
rs and help fashion clay models of
prototypes. Amex Resources Inc., an
nd gas company in Denver, will have
visitors talk to employees working in
s that interest them, such as com-
ers or exploration. Valvoline Inc. in
agton, Ky., is even planning to
g girls inside its oil-change centers
flate tires and enter customer data
computers.

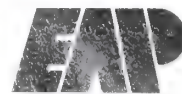
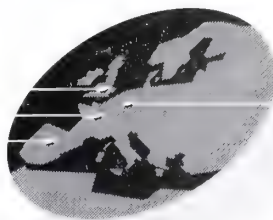
at what about the boys, who aren't
ed to participate? Isn't this just sex-
n reverse? Yes, say some who want
ance to spend a day at the office.
"I think we are at a disadvantage,
use it's good for us to see how a
ness is run, too," says Jordan Weitz,
a seventh-grader in Chappaqua,
Adds Mary Ann Von Glinow, a
ness professor at the University of
hern California: "We ought to have
ng-our-kids day, as opposed to just
girls. It can disenfranchise parents
their sons."

try to address such concerns, the
Foundation has designed a curricu-
to encourage boys to question gen-
attitudes and stereotypes in class-
es. And Neil Merlino, a consultant to
Ms. Foundation, defends the empha-
n girls by citing academic research
ing that girls lose self-esteem and
dence as they become young wom-
he says the program is designed to
girls more attention and provide
with role career models. "When
have boys and girls in the same
a, people tend to pay attention to the
," Merlino says.

WIDED VIEW. Organizers say the pro-
is success is mainly the result of
sroots interest from female employ-
who have asked employers to sup-
the idea. As a junior high school
ent, recalls Romaine Crawford-Mul-
director of the Corning Glass Center
ostate New York, "I had no idea of
number of opportunities out there.
hope is that by showing so many
erent career paths that women at
ing have taken, some of the girls
think more broadly." Says Cynthia
ohnson, senior specialist at Du Pont:
e level of enthusiasm among our em-
ees has been overwhelming."

ven the positive response, the day's
nizers would like to try it again
year. "We plan to do this until we
t have to anymore," says Merlino.
the kids? Erika Self, for one, isn't
sure if she is cut out for business.
on't know if I would want to have
mom's job," she says. Maybe after
ing her mother around for the day,
ll be able to decide one way or the
r.

by Lori Bongiorno in New York, with
au reports



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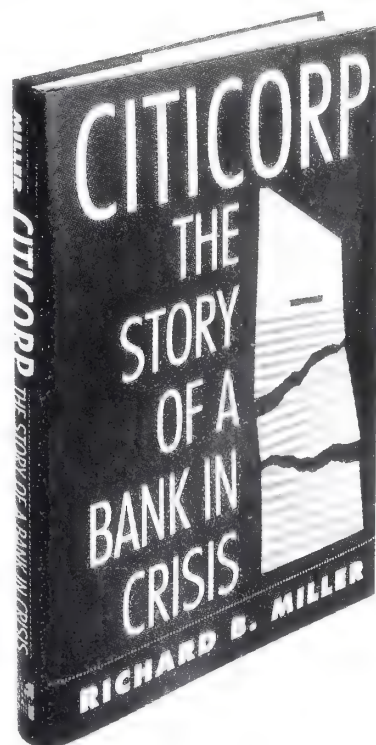
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In Business This Week

EDITED BY THANE PETERSON

WATCHING INTEL

Is Intel a buy or a sell? Hard to tell. On Apr. 12, the chip-maker's shares rose to 117 1/2 on the news of record first-quarter earnings. Within days the stock had taken a big hit, dropping 16 points on word that rival Advanced Micro Devices may have won the legal right to sell a clone of Intel's 486 chip. With AMD moving ahead, and rivals such as Cyrix and Texas Instruments also cloning the silicon, Intel is feeling the heat. How much heat? Here's one estimate:

486 MARKET SHARE

	1991	1992	1993	1994
INTEL	82.4%	94.0%	86.3%	72.0%
AMD	0	0	2.4	10.2
CYRIX	0	0	1.8	4.5
TI	0	0	1.2	3.8
IBM	17.6	6	8.3	9.5

DATA: ROBERTSON, STEPHENS & CO

NUTRI/SYSTEM: FED UP AND SELLING OUT?

► Nutri/System, the weight-loss outfit, may soon be sold. Combined, the company's losses have topped \$98 million in recent years. It also is struggling to resolve the last of numerous suits filed by customers who allege that the diet has damaged their gallbladders. Nutri/System denies liability. Now, says Dr. Richard L. Gordon, a California psychologist who owns 86 Nutri/System franchises, the company is negotiating with several buyers and will probably be sold this year—maybe within a month. A company spokesman declines comment.

KANTOR AND THE EC COOL OFF—HALFWAY

► Crisis averted—sort of. U.S. Trade Representative Mickey Kantor announced on

Apr. 21 that the U.S. will impose only partial trade sanctions against the 12-nation European Community for giving preferences to European companies bidding on EC government contracts. At the last minute, the two sides agreed on removing restrictions that the U.S. said had kept its companies from competing on an equal footing in Europe's market for electrical generating equipment. Negotiators failed to remove similar restrictions on telecommunications companies. So, about half of the \$50 million worth of retaliation proposed by the Clinton Administration will go into effect.

TWO COURT VERDICTS THAT SUIT BUSINESS

► Business scored two wins from the U.S. Supreme Court on Apr. 20. The justices ruled 5 to 4 in favor of the Newark Morning Ledger Co., a New Jersey newspaper company, and against the Internal Revenue Service. The decision allows companies to write off acquired intangible assets, such as newspaper subscriber lists, bank deposit accounts, and brokerage accounts, if they can be accurately valued. That could wipe out as much as \$10 billion in taxes companies had owed on such assets.

The justices also ruled unanimously that Hazen Paper, a small Holyoke (Mass.)

A SMALLER BASKET MIGHT ALSO BE IN ORDER

When Dan Calhoun of Bloomington, Ill., won \$1 million by heaving a basketball nearly full-court for a swish, he wasn't the only one to luck out. Sponsors of the Chicago Bulls' promotion—restaurant chain Lettuce Entertain You Enterprises and Coca-Cola—had paid \$5,000 to insure 21 long-range shots during intermissions in Bulls games. When Calhoun swished in during the twentieth contest, American Hole 'N One, an Oakwood (Ga.) insurer that specializes in risky events, faced a big payout.

But Hole 'N One got lucky. The sponsors had forgotten to have Calhoun sign a required waiver that he had never played college hoops. Turned out he once played for a junior college. Don't weep for Calhoun, though. Fearing public outrage and potential lawsuits, the Bulls and sponsors ponied up. And Hole 'N One? It plans to insure the event next year—for a much fatter fee. It now calculates the odds of a swish at just 20 to 1.



company, had not practiced age discrimination when it fired Walter F. Biggins, then 62, just before he was due to vest in its pension plan. The court said the firing was O.K. as long as it wasn't motivated by negative stereotypes about older workers.

MORE HARD TIMES FOR HARD DISKS

► You'd think these guys don't like making money. After riding the personal-computer boom for nearly two years, makers of computer disk drives are at war over prices again. New software that eats up lots of memory

has created a glut of drive holding less than 120 million bytes of data, and some players aren't ready with bigger drives yet. Prices fell about 10% in the first quarter, nearly double the usual decline. That drop helped push Conner Peripherals, the No. 1 drive maker, into a \$22.5 million loss in the first quarter. Now, Conner plans to cut staff by 10%. Earnings have also declined at No. 1 Seagate Technology.

A NEW TRAIL BOSS FOR MARLBORO

► It's tough being a tobacco guy these days. The head of Philip Morris USA, William Campbell, launched a prewar when he announced that the company would lower the price of Marlboro cigarettes by some 20%, and he is now taking the fall for Marlboro's loss of market share to low-priced smokes. On Apr. 12, Philip Morris announced that Campbell has a new boss, and, effectively, a demotion. Campbell will now report to Geoffrey Bible, a veteran of the tobacco industry. Bible becomes executive vice-president and will be responsible for Philip Morris' tobacco operations worldwide.



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UNCLE SAM WANTS TO FIX POTHOLES WITH YOUR PENSION FUND

Imagine that you're Bill Clinton. You want to spend tens of millions of dollars on new roads and bridges, worker training, affordable housing, and inner-city development. Every time you look, you see stunning shortfalls in public investment. But you have no money. And a newly deficit-conscious Congress, which is refusing to pass a modest urban-spending increase, is not about to provide much help. What's an activist president to do?

In his search for funds, Clinton is casting a hungry eye on the world's biggest pool of money: \$4 trillion worth of pension funds. At least three Cabinet members—Robert B. Reich of Labor, Henry G. Cisneros of Housing & Urban Development, and Federico Peña of Transportation—have urged pension-fund managers to target some of their investments toward public needs. The Clintonites "are extremely passionate about rebuilding America," says one congressman, "and they are desperate to find ways to finance it." But only a small pilot project has gotten off the ground: Cisneros has joined in a partnership with the AFL-CIO's Housing Investment Trust that will pump \$500 million of union pension money into low-income housing.

OPTIONS. Clintonites came to Washington gung-ho for turning pension assets into public infrastructure. But while they are pressing ahead with a sweeping review of pension funds, officials don't expect much action this year. So far, they haven't found a way both to boost public investment and to protect retirement money. Congress is already worried about insolvency of the Pension Benefit Guaranty Corp., which insures private pensions. Any attempt to push plans into taking on more risks will meet stiff resistance both on Capitol Hill and from pension-fund administrators. Alternative routes to the pension pot of gold face similar op-

position. Administration officials have discussed taxing the assets of plans or setting targets of, say, 5% of assets to be earmarked for social investment. At least half a dozen states have set investment goals for public-employee funds, but most have failed to meet the targets because available opportunities are too risky.

But don't underestimate Clinton. He could settle on a federal revolving fund that would provide seed money to encourage private infrastructure investment. Trouble is, he doesn't have the money to get such a program off the ground. There is a

less expensive alternative, proposed earlier this year by a congressional infrastructure commission. It recommended federal loan guarantees to insure pension investments in roads, bridges, and the like. But Clinton aides are wary of yet another quasi-governmental enterprise that will create liabilities for the Treasury.

FRESH PLAY. In the short term, Clinton may settle for symbolic efforts and a lot of jawboning. Some aides favor a national data base, which would offer a list of projects for pension investors to peruse. That may

appeal to some pension fund managers, who face their own challenge. Thanks to low interest rates and a stagnant stock market, high returns are hard to find. So they are interested in the potentially high yield from privatized infrastructure.

Since pension law already permits such investments, activity could easily pick up. "Structured properly, there's an appetite to finance these projects in the private market, even without government guarantees," says Eileen Austin, a partner at Elkind & Austin, Los Angeles consultants. "The government's role may be to encourage them from the bully pulpit." For now, that may be all that Bill Clinton—whose will is so much greater than his wallet—can afford.

By Howard Gleckman, with Christina Del Valle



HUD'S CISNEROS: ONLY THE AFL-CIO HAS PITCHED IN

ITAL WRAPUP

REPRENEURS

Looking for a Presidential appointment, but worried about nanny problems haunting your confirmation hearings? Two Silver Spring (Md.) entrepreneurs, inspired by the misfortunes of would-be Attorneys General Robert B. Byrd and Kimba Wood, have the answer to your problem. For a \$35-a-quarter service charge, Nannies Inc. will forward your state and federal payroll taxes and take care of the accompanying paperwork. Kathleen M. Webb, who started the service with her brother Alan Heilbron, says business at the month-old company is "better than thought." Webb declines to name

her clients, but she reports: "We're getting a lot of professionals interested in this, people who are fairly high profile in the community."

THE SENATE

Considering the beating that President Clinton's stimulus program is taking in the Senate, it's ironic that the White House may someday regard early 1993 as a golden age on Capitol Hill. But chances are that it will be all downhill for the Democrats, who now hold a 57-43 Senate edge. The most immediate threat is the potential loss of the Texas seat of Treasury Secretary Lloyd M. Bentsen, now held by appointed Senator Bob Krueger.

The first-round primary will be held May 1 with a June runoff likely. But the real danger is the 1994 midterm election. Thirty-six seats will be up, and 22 of them are now held by Democrats, making Democratic losses likely.

Both parties have some serious vulnerabilities. To start with, John C. Danforth (R-Mo.) and appointee Harlan Mathews (D-Tenn.) have announced they won't run. Minnesota Republican David Durenberger hasn't announced his intentions, but his recent federal fraud indictment leaves him in limbo. And 75-year-old Howard M. Metzenbaum (D-Ohio) may well retire. Eleven new senators were elected last fall, including five who beat incumbents.

JAPAN



THE U.S. INITIATIVES INCLUDE TARGETING INDUSTRIES, SUCH AS COMPUTERS

IN JAPAN, THEY CALL IT 'CLINTON SHOCK'

The President takes a battering ram to intransigent trade policies

Wilfred J. Corrigan, chief executive of LSI Logic Corp. and a director of the Semiconductor Industry Assn., is a staunch Republican. He doesn't like many of Bill Clinton's policies. But when it comes to Japan, he says, "the Clinton Administration is right on [target]." Corrigan's company and other chipmakers have benefited from Washington's help in reaching a 20% share of Japan's market over the past seven years, up from 8.6%. Corrigan figures the only way to deal with Japan is to be tough, turn up the pressure, and set quantifiable goals. "It's got to be measurable," he says. "Otherwise you get vague statements that things are going to get better."

That's what Clinton and his trade team think, too, and that's what they pressed for in mid-April when Prime Minister Kiichi Miyazawa visited the White House. Unlike previous Presidents, Clinton put economic issues front and center, ahead of traditional national security concerns. The tone was busi-

nesslike, and there was little of the usual banter. Rather than just exhorting Japan to open its markets, Clinton laid out a new menu of trade measures aimed at reducing a widening \$50 billion deficit.

CLEAN BREAK. The Clinton policy marks a clean break with the past. It jettisons the notion that Japan will eventually emulate U.S. ways. Says Laura D'Andrea Tyson, chair of the Council of Economic Advisers: "Our view is, yeah, Japan really is different. Even the Japanese say... they have a different system of capitalism." So forget Carla A. Hills' velvet crowbar. Bill Clinton wants to wield a battering ram.

Already, U.S. Trade Representative Mickey Kantor is mulling punitive tariffs on Japanese imports if Tokyo's new \$117 billion stimulus package doesn't result in purchases of U.S. supercomputers. Reflecting their new penchant for targeting specific industries, officials are also planning an assault on Japan's insurance market, hoping to get U.S. insurers a guaranteed slice. U.S. auto-

parts makers are working with Washington to hold the Japanese to the promise to purchase \$19 billion in U.S. parts by March, 1994. And the U.S. semiconductor industry is banking on Kantor's insistence on an average 20% share of Japan's chip market for all of 1993.

What's more, on Apr. 30, the Commerce Dept. may cite Japan for excluding U.S. construction companies from airport contracts. If Tokyo fails to agree to concessions within 60 days, the U.S. would bar Japanese companies from bidding on U.S. airport contracts. "Tough rhetoric is fine," says one Administration official. "But the Japanese have been feeding at our trough for 30 years. We have to show we mean it this time."

The combination of Clinton's policies, including pressure for a stronger yen (page 47), is being called "Clinton shock" in Tokyo, and Japanese leaders are resisting. Miyazawa flatly rejected market share targets for U.S. goods, and Ministry of International Trade & Industry Vice-Minister Noboru Hatakeyama insists "we absolutely will not respond to unreasonable requests."

But once passions cool, the U.S. is prepared to be flexible on how it actually measures results. Among the options to be offered by U.S. negotiators: substituting less onerous export-growth targets for market-share goals and measuring the extent to which Tokyo adopts universal standards rather than ones unique to Japan. U.S. policymakers believe these choices offer enough room for compromise and note that Japan has accepted such other "managed trade" measures as voluntary restraints on auto and steel exports. "The Japanese have always shown an ability to adjust, and they will this time, too," predicts Senator Jay Rockefeller (D-W. Va.).

Even if the Japanese eventually swallow the new terms, the policy hasn't escaped criticism at home. Free traders are aghast. And others say Clinton will weaken on follow-through and worry that when push comes to shove, the President will shrink from retaliation.

Japan may not like Clinton's strategy. But it may grow to appreciate the clarity in U.S.-Japan relations. "There's no confusion anymore" between Congress and the White House, or the State Dept. and the trade representative, says Clyde V. Prestowitz Jr. of the Economic Strategy Institute. At last, the U.S. is singing out of one hymn book on trade. Japan may not like the words, but there's no mistaking the melody.

By Douglas Harbrecht and Amy Bohn in Washington, with Richard Brandt in San Francisco and Neil Gross in Tokyo

WHY THE SOARING YEN WON'T CRINK JAPAN'S TRADE SURPLUS

a variety of reasons, Tokyo may even benefit

President Clinton wastes few words when it comes to measures to curb Japan's \$49 billion trade surplus with the U.S. At an Apr. 16 House press conference with Japanese Prime Minister Kiichi Miyazawa, Clinton would like to try "three or four" strategies. "No. 1," he said, is "the devaluation of the Japanese yen."

With the President seconding what Treasury Secretary Lloyd M. Bentsen already had been recommending for years, traders have driven the yen to new highs against the greenback. That has prompted Japanese Finance Minister Yoshiro Hayashi and officials to all but beg the Group of Seven industrialized countries to intercede before the soaring currency puts an end to Japan's fledgling economic recovery.

Those fears may be overblown. In such Japanese export industries as automobiles and electronics are all meeting stiff price resistance. As other industries will benefit as the yen's rise slashes the cost of importing raw materials. The influx of cash into the yen may allow the Bank of Japan to lower interest rates. And that will certainly give Miyazawa's \$117 billion economic stimulus plan an extra boost. "For the yen as a whole, it isn't a major blow," Hideki Furuya, a senior economist

at Iwata Research Inc., who figures the 18% rise in the yen, to 110 to the dollar, will shave only a few tenths of a percent off this year's 2.5% economic growth.

OF PAIN. Many economists are skeptical of Clinton's bet that a stronger yen will curb the trade deficit. They say the strong currency will hurt Japanese companies, even greater unemployment and induce them to build more

factories overseas to cut manufacturing costs. And even if they don't, companies in businesses such as chip-etching and fast equipment that are dominated by Japanese are in a strong position. It won't be hard for them to hike their prices to cover exchange rate



**MIYAZAWA AND CLINTON: A STRONGER YEN
IMPERILS JAPAN'S RECOVERY**

changes. A high yen will also raise the cost of investing in Japan, which will make it even tougher for American companies to penetrate the country's tricky market. In the short run, the deficit could soar as the dollar value of Japanese goods rises. Robert A. Brusca, chief economist of Nikko Securities International Inc., points out that halving the dollar's value against the yen since 1985 has had little effect on trade flows. "So why will this next move be so important?" he asks.

That's not to say there won't be pain in Japan. Carmakers, such as Toyota Motor Corp. and Nissan Motor Co., currently face a shrinking market share in America, and they must endure wrenching restructuring. And Compaq and Dell are closing in on Japanese computer makers such as NEC on their home turf.

But Japanese companies have other options than manufacturing in high-cost Japan. Despite the recession, they have

been investing \$6 billion a year in Asian countries, such as Thailand, Malaysia, and Singapore, building facilities for making automobiles and numerous electronic components. This provides the Japanese with an alternative base that is less affected by the yen's fluctuations. The strong yen makes it cheaper to invest in Asia, where many currencies track the dollar.

The Japanese also have adjusted their export patterns to ease their dependence on the U.S. Japanese exports to East Asia, for example, are running at around \$10 billion a month, more than the \$9 billion a month that goes to the U.S. That's a smart game plan, given that Asian markets offer hotter growth than the recession-plagued markets of Canada and Europe, where U.S. exporters have focused their efforts.

SEA CHANGE. Even for those companies still relying exclusively on manufacturing at home, a higher yen can be good news. Nippon Paper Industries Co., which buys wood chips from the U.S., figures that each one-yen drop in the dollar boosts its profits by about \$3 million. A similar drop will bring Tokyo Electric Power Co., a big consumer of imported oil, a \$36 million yearly profit windfall. And Nippon Steel Corp., a big exporter, won't be hurt much, because its coal and ore imports about match its steel exports in value.

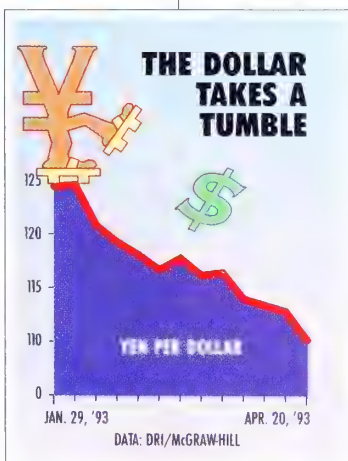
There's no doubt that the rising yen has been a huge boon for Japan's troubled financial industry. Last year, Japan's banks feared they wouldn't meet the stringent capital rules set by the Bank for International Settlements for 1993. But there has been a sea change. First, the recovery of the stock market boosted the value of the banks' securities holdings and increased their capital. Now, the rising yen is further strengthening their balance sheets.

The value of the banks' huge foreign loans—estimated at \$920 billion in September—has plummeted in yen terms because they were largely denominated in dollars. That will free capital and give them leeway to step up lending at home. Some Japanese bankers think that every one-yen rise might free as much as \$40 million in capital at each of the biggest banks.

It may be that of all the different measures that President Clinton is considering to redress trade imbalances with Japan, devaluation of the dollar is probably the easiest one for the Japanese to accommodate.

No wonder Japanese policy makers appear to be resigned to a higher yen, despite the protests from Corporate Japan. It's something they know they can live with.

By Larry Holyoke in Tokyo, with Stanley Reed in New York





PRIVATIZED PORK TATAR'S LEADERS TURNED THE SALMACHI STATE FARM INTO A CO-OP AND GAVE IT A THREE-YEAR TAX BREAK



INVESTING-CLASS HERO THE ROSSIANOCHKA CLOTHING FACTORY IN VOLGOGRAD HAS 200 SHAREHOLDERS

RUSSIA

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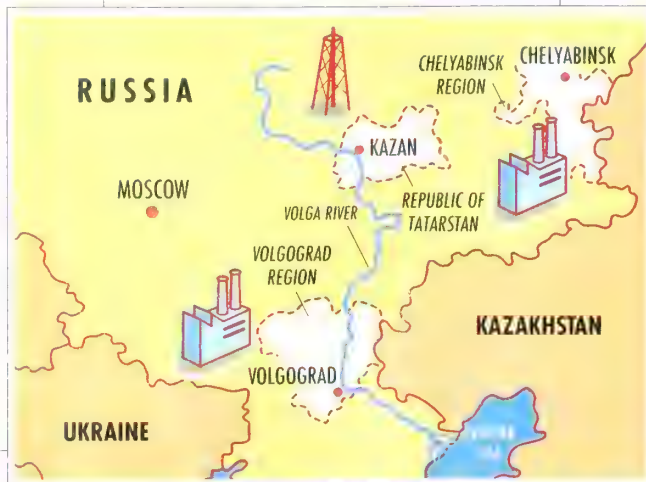
Even if Yeltsin wins the referendum, he must placate local leaders

Like the former Soviet Union before it, Russia itself is now in danger of splitting apart. Frustrated by the political chaos in Moscow and angered at growing economic malaise, the mosaic of the 88 political subdivisions that make up the Russian Federation is beginning to take charge. Localities and regions are seizing control over their own oil reserves and precious metals. They're challenging Moscow's role as tax collector and policy dictator. Some energetic local leaders are moving even faster than President Boris Yeltsin had planned to privatize state companies. At the same time, conservative leaders in other areas are pulling in precisely the opposite direction.

These centrifugal forces could gain speed should Yeltsin lose big in a national referendum on Apr. 25 and resign. But even if he wins and stays in power, he could be caught up in the same tornado of intense change that brought about the demise of Mikhail Gorbachev and the Soviet Union. The criti-

cal question facing a victorious Yeltsin will be whether he can shrewdly forge policies that empower the regions while leaving a central government with real authority. "The only way forward is decentralization," says economist Grigory Yavlinsky, a former Gorbachev adviser. "But what we have now is disintegration—a chaotic, unmanageable, even criminal decentralization."

Look at a map of Russia and you see one challenge to Moscow after another.



The former Soviet autonomous republics of Yakutia (now known as Sakha) and Tatarstan, for example, have declared sovereignty over natural resources, such as oil and diamonds. They want to use these as collateral to seek loans from foreign banks and to issue their own credits—moves that could add to Russia's 2,000% annual inflation and \$84 billion in foreign debt.

In Siberia, 19 different regions led by Tomsk and Krasnoyarsk have teamed up to form the Siberia Assn., which independently aims to export Siberian resources to the West and not share earnings with Russia. Since Siberia has independent access to big Pacific seaports, the threat is real. Not surprisingly, Russian Prime Minister Viktor Chernomyrdin sharply criticized the association at its founding meeting in February. "There will be no strong Russia if the regions are strong. We do need strong regions," he told them.

IGNORED LAWS. Even progressive regions such as Nizhni Novgorod, which boldly introduced Yeltsin's reforms, are raising eyebrows in Moscow. Reform-minded Nizhni Novgorod Governor Boris Nemtsov is calling for greater local tax- and fund-raising powers, threatening some of the central authority's biggest roles. Nemtsov, a 34-year-old physicist, has moved fast to privatize local stores and industry. He thinks most economic reform decisions should involve the local level.

But elsewhere, the winds are blowing the other way. In major industrial regions



WHEELSPIN AT A TRACTOR PLANT MANAGERS AT URALTRAK HOPE A BAN ON PRIVATIZATION WILL BE LIFTED BY MIDSUMMER

abinsk and Novosibirsk, conservative regional councils have tried to stall government's privatization effort. Using Russian law and a presidential decree, they decided to suspend privatization auctions. They made their moves by blocking investors from Moscow and other parts of Russia purchased shares of local regional enterprises, threatening federal control. BUSINESS WEEK visited Chelyabinsk, along with Tatarstan and Volgograd (box) to assess three different versions of regionalism.

comes as another blow for Western business executives, many of whom have just gotten used to dealing with former Soviet republics that are now independent countries. Some find that negotiating in a progressive region of Russia can put deals on the fast track. Others, however, find regionalism to be one more joke in bad taste. White Nights, an oil venture of Phibro Energy Production and Anglo-Suisse, found itself in a jungle of capriciousness after plunking \$110 million into a western Siberian oil venture. First, the project was almost

snuffed out by a national export tax on oil. Then, regional and local governments added on tax after tax. Whereas White Nights once paid four separate taxes, now it faces a total of 12.

The results of the Apr. 25 referendum are unlikely to quell this regional muscle-flexing quickly. Indeed, such assertiveness will surely increase if new elections for President and Parliament are called, spinning out the political confrontation until this autumn or next spring. At worst, this could lead to an uncontrolled breakdown of power in Russia, with its 10,000 nuclear warheads and army of 2.8 million troops.

'IMPERIAL THINKING.' But if Yeltsin wins enough of a mandate in the referendum to act decisively, he could finally begin building what he calls a stable "full-blooded federation." That would allow him to implement market reforms, effectively use new pledges of \$43 billion in Western aid, and attract more Western investment.

Even so, Russia would be a profoundly different place, with Moscow assuming a dramatically different role. "The government at the federal level should not try to appear to be capable of managing all the regions, as it used to do," says Tatarstan Vice-Premier Ravil F. Muratov. "The quicker Moscow gives up its imperial thinking, the faster reform will happen in Russia." Much depends on Yeltsin heeding that advice.

By Rose Brady in Kazan and Chelyabinsk and Deborah Stead in Volgograd

TATARSTAN

CAUSING YELTSIN GRIEF

In Kazan, Russian flags fly in the city of Kazan. Instead, the green, red, and white flag of Tatarstan flutters. Though it is surrounded by Russia on all sides, Tatarstan considers itself a sovereign republic. It is a leader in the push for regional autonomy inside Russia. The republic's 1.6 million people refused to sign Yeltsin's Federation Treaty. Tatarstan wants "associate" membership: It aims to have authority for defense, transportation, oil, and gas pipelines to Moscow and make all other decisions itself. Even without formal agreement, the region already has begun carving out economic independence. Tatarstan has adopted its own constitution, which allows private land ownership. And it is moving more slowly than Russia on economic reform to keep living standards from plunging.

VOLGOGRAD

SMOOTH TRANSITION

Volgograd, a conservative factory and farm area, is in the forefront of privatization, in part because its old-guard governor is reluctant to alienate Boris Yeltsin. So far, some 200 big enterprises are moving through its privatization pipeline—more than in any other Russian area. With the help of the World Bank's International Finance Corp., the region has also been the first to issue stock certificates to new investors.

But even this obedient region is pulling away from Moscow's control. Bypassing conflicting privatization decrees from Moscow, local officials are setting some of their own rules. Meanwhile, some complain that federal levies on imported equipment discourage foreign investors. And Volgograd wants a bigger part of each tax ruble it collects.

CHELYABINSK

HARD-LINERS' REVENGE

It didn't take long for the conservative Chelyabinsk Regional Council to nip Boris Yeltsin's privatization program in the bud. Just days after the first auction of local enterprises, the council suspended further sell-offs. The reason: "Outside investors" from Moscow bought a 19% stake in one profitable factory.

Call it the hard-liners' revenge. Taking a cue from Russia's Parliament, which has been attacking Yeltsin, the Chelyabinsk council is going after the region's chief executive, Vadim P. Solovyov, a Yeltsin appointee who favors fast reform. The council called elections for Solovyov's replacement, a move that Yeltsin has called illegal. Still, Yeltsin could find himself with two governments in Chelyabinsk, fueling more confusion over the pace and substance of economic reform.



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SOUTH AFRICA: THE ANC PASSES TEST OF LEADERSHIP

The funeral of slain African National Congress leader Chris Hani on Apr. 19 had all the ingredients of calamity. Dozens of heavily armed members of the Afrikaner Resistance Movement, a white supremacist organization, hid in bushes across the road from the cemetery in Germiston, a contentious white residential area east of Johannesburg. At the same time, a small group of armed mourners, gathered at the soccer stadium where a memorial was being held, were setting off fires and throwing stones at the police.

The encounter between these angry blacks and the rightists might easily have ended the race war South Africa has so long managed to avoid. But the African National Congress (ANC) urged mourners at the stadium to keep away from the cemetery and most did. The right-wingers could find no excuse to open fire, and South Africa could breathe again.

Farther than completely derailing South Africa's attempt to find a path to majority rule, the slaying of Hani by an apparent extremist on Apr. 10 may have ended the prestige of the ANC and its bid for power. Amid the turbulence, it was ANC President Nelson Mandela who played the role of statesman. In prime television time over three nights, the 74-year-old leader appealed for calm. He argued against racial violence, pointing out that Hani's alleged killer was apprehended because a white neighbor of Afrikaner descent who witnessed the murder reported it.

NO DEALS. In contrast, President F.W. de Klerk has seemed ineffectual and small-minded. After the assassination, de Klerk wanted to declare a state of emergency around Johannesburg and deploy troops to head off trouble. Protesting such moves would be provocative, the ANC cut a deal with de Klerk whereby it would keep its own supporters under control. In return, the state-of-emergency option was dropped

and police adopted a lower profile. Many observers saw this as a sign that while the ANC does not hold the usual reins of power, it is already acting like a government.

South African business leaders are also beginning to appreciate the ANC's moderating role. Business groups urged their members not to take action against workers who took time off to mourn Hani. Even more remarkably, companies bankrolled many aspects of the funeral itself—financing transport, food, and other costs. The big mining companies jointly paid more than \$200,000 for this purpose, while Coca-Cola Co. donated soft drinks. "Business has to help strengthen the position of that section of the ANC leadership struggling to ensure a relatively stable transition," explains one senior mining executive.

He was alluding to the problem that Hani's death poses for the ANC. As a charismatic guerrilla fighter, Hani enjoyed unique credibility with young militants, who increasingly charge Mandela's generation with selling out. It remains to be seen if the older leaders can keep the young lions under control in his absence.

Doing so will be crucial as Mandela and de Klerk try to refocus on negotiating a transition. Both sides view Hani's assassination as a desperate last attempt by die-hard pro-apartheid elements to derail the talks that were beginning to bear fruit. But the crisis it caused has convinced both the ANC and de Klerk's National Party that they are sitting on a time bomb and they had better make headway before it goes off. The ANC has demanded that an election date be announced soon, so it can channel the growing anger into an election campaign. The weakened National Party seems to agree. If the many wild cards can be kept in check, Hani's death may yet have the effect of speeding the transition to majority rule.

By Alan Fine in Johannesburg



SERVICES FOR HANI IN SOWETO

BUSINESS WRAPUP

MAN LABOR SHOWDOWN?

Management and labor are closer to a confrontation in eastern Germany. Employers have rescinded a wage agreement that would have allowed wages in the east to rise to western levels by 1994, which would have meant a 26% increase this year. The powerful IG Metall union is now urging its workers in preparation for a strike. If they approve, a strike affecting such industries as steel and machinery could occur as soon as May. Economics Minister Günter Rexrodt says that with productivity in the east at 30% of western levels, the 1991 target just isn't realistic. "We need a

strike," says Rexrodt, arguing that it is the only way to bring the union to its senses.

FRENCH BANK REDESIGN

Details of French Prime Minister Edouard Balladur's plans to make the French central bank independent are trickling out. Early signs are that he wants to put representatives of business and employer groups and, perhaps, even labor unions on the Banque de France's key monetary-policy council. But whatever changes Balladur makes, French interest rates will be influenced by the German Bundesbank as long as France chooses to march in lockstep with Germany.

ASIAN GREENS AGAINST GOLF

Environmental groups in Asia are increasingly teed off about golf. As courses proliferate across the Asia-Pacific region, environmentalists are worried about the deleterious effects of the game, including pesticide pollution of air and water and destruction of natural habitat and agricultural land. Japan's Global Network for Anti-Golf Course Action is co-sponsoring the first regional gathering on the subject, which is scheduled to take place in late April in Malaysia. The likely outcome: a more coordinated plan on how to limit the building of golf courses in Asia.

A CONSUMER'S GUIDE FOR HEALTH-CARE SHOPPERS

Cleveland's novel study grades local institutions' performance

You've just mashed your knee in a biking accident. Do you know which hospitals in your city offer the best surgery for the best price? Probably not, and neither do most hospitals. But as the Clinton Administration embraces a reform system that forces purchasers to shop for health care, information about the effectiveness and cost of treatments will be critical to the pro-

and obstetrical procedures and diagnoses. The research shows whether the hospitals are meeting expectations but doesn't rank them against each other. The data "are going to cause an entirely different dynamic in the market," says Patrick J. Casey, director of the Health Action Council of Northeast Ohio, a business group.

Cleveland is on the leading edge of a

der its system of managed competition. While such pioneering surveys are ongoing in Pennsylvania, Orlando and Cincinnati, for example, the Cleveland program stands out for its attempt to build its own measure of quality and for its broad-based support. Ultimately, the data may help reshape local care, encouraging hospitals to specialize in what they do best. It could also speed the closing of inferior institutions or direct unneeded facilities to other uses. But such changes are still a ways off. Nothing, Cleveland's experience so far shows that it won't be easy for the Clinton Administration to develop national models for measuring outcomes. "We're really 3 to 10 years away from a comprehensive system of measuring whether a satisfactory outcome was achieved," says Boston lawyer Daniel T. Robles, a member of the Jackson Hole Group, which supports managed competition.

aged competition.

PARTNERSHIPS.

To gauge quality, Cleveland uses three different pieces in its evaluation program (table). One is a patient-satisfaction survey. The other is an off-the-shelf statistical model used in many hospitals that predicts death rates and length of stay in intensive-care units, justifying differences among patients. But with the help of Chicago consultant Michael Pine & Associates Inc., the program built its own system for evaluating the effectiveness of various medical, surgical, and obstetrical procedures and diagnoses. The Pine model will eventually show how each hospital

HOW CLEVELAND MEASURES QUALITY

PATIENT SATISFACTION

Surveys sent to hospital patients ask about everything from how they feel about nursing care to billing.

INTENSIVE CARE

Using national norms, the program predicts mortality rates and lengths of stay for area hospitals. It then grades hospitals on whether they meet expectations.

MEDICAL, SURGICAL, OBSTETRICS

Using Cleveland norms, the program predicts mortality rates, lengths of stay, and complication rates for a host of diagnoses and procedures. The hospitals are evaluated on how they measure up.



HARPER: ON THE LEADING EDGE OF A TREND TO DEVELOP "OUTCOMES MEASUREMENT"

posal's success. Buying health care intelligently can't be done without such data. Until recently, the data didn't exist.

On Apr. 28, a Cleveland coalition will release the first round of a groundbreaking study that begins to provide a purchaser's guide to local hospitals. Backed by companies, physicians, and hospitals, the Cleveland Health Quality Choice Program grades 31 hospitals on their ability to handle high-volume, high-price, and high-risk cases. To do that, it studies patient satisfaction, intensive care, and a host of medical, surgical,

growing national trend to develop what health-care insiders call "outcomes measurement." Every health-care bill introduced in Congress during the past two years has included provisions for gathering performance information, notes Dennis S. O'Leary, president of the Joint Commission on Accreditation of Health-care Organizations. The Clinton Administration is almost certain to require some way to measure outcomes in its proposal so that big purchasing groups, known as health alliances, can shop for high-quality, cost-effective providers un-

treatment of congestive heart failure, for instance, compares to the Cleveland norm. The intensive-care model shows how well Cleveland hospitals perform against hospitals nationally.

What the data can't predict, of course, is the reaction of Clevelanders. "If you could take that factor away, it would be a simple project," notes Executive Director Dr. Dwain L. Harper. Even though no data has been publicized, it's triggering lots of scrambling by area hospitals. For example, program guidelines say hospitals can't use the study to

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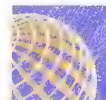
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themselves. But Linda Somers, director of health-care management at the local Prudential Health Care Plan, says that three hospitals have already told her that they ranked high in the survey, so she should do business with them.

Businesses have pledged to use the results to buy from high-quality institutions, rewarding them with higher volume and presumably driving down their costs. Parker Hannifin Corp., for one, will use the new data to "key in on the hospitals we want to talk to about partnership arrangements," says Thomas S. Roos, employee-benefits director of the Cleveland-based industrial-parts maker.

A number of hospitals are already using the results to improve themselves—the program's other goal. MetroHealth St. Luke's Medical Center, for example, discovered that new mothers weren't pleased with the diets they were being fed. With a nod from its dieticians, the hospital started offering them hamburgers, milk shakes, and french fries.

DELAYS. Hospitals haven't found much fault with the patient-satisfaction and intensive-care data, but controversy surrounds the Pine model. Large referral hospitals—which typically get the sickest patients—say it may make them look worse than they are. When University Hospitals of Cleveland found its pneumonia patients staying longer than expected, it discovered many suffered from cystic fibrosis. Since it's the only local hospital that treats these patients, they were cut from the data base.

The coalition spent much of the past year ironing out such issues, delaying the report's release. An official at University says that the hospital is still probing whether there might be other examples where the Pine model accurately predicts outcomes across the Cleveland area yet distorts the performance of a particular hospital. While supporting the program generally, the Cleveland Clinic has been more sharply critical. It claims the model underestimates the risk of very ill patients, especially those transferred from other hospitals. In defense, Harper, the executive director, says he invited hospitals to cite scientific flaws in the latest Pine model: "We haven't heard from them."

But Harper notes the survey has its limitations. For example, it doesn't say how successful patients are in returning to productive lives or how doctors are performing. In short, predictions about the data's ultimate effects are as certain "as who's going to win the fourth [race] at Hialeah," says Dr. Michael Pine. But with health-care bills soaring and growing pressure from Washington to seek quality at lower costs, it's a bet that Cleveland is willing to take.

By Zachary Schiller in Cleveland, with Michele Galen in New York

Government

CONGRESS

AN OLD WAR-HORSE HAS HIS DAY

Clinton must deal with Pat Moynihan's new power and old agenda

A one-on-one meeting with the President doesn't come along often, even for a powerful Senator. So when Bill Clinton invited Daniel Patrick Moynihan to share his limousine during a Feb. 19 trip to Hyde Park, N.Y., the new chairman of the Senate Finance Committee had a chance to press his views on the tax and health-care issues coming before his panel. Instead, the New York Democrat pushed an issue that's dear to his heart but low

Clinton when he thinks that the White House is on the wrong track (table).

Already, Moynihan has publicly questioned the wisdom of Clinton's investment tax credit (ITC). He let it be known that he's no fan of the White House partisan approach to its stimulus package. He doesn't hide his displeasure he has had to learn about White House revenue ideas, from higher taxes on Social Security benefits to a possible value-added tax, through trial balloons in



on almost everyone else's agenda: welfare reform. Moynihan reminded Clinton that he must follow up on his campaign promises to end welfare dependency.

TRIAL BALLOONS. That's pure Moynihan. While the 66-year-old academic-turned-politician counts himself as an ally of the White House, the thoughtful but quirky Senator is already shaping up as a difficult friend for the President. Moynihan will work hard for the Administration's programs—he played the loyal foot soldier at his first hearings on Clinton's tax plan on Apr. 20—but not at the expense of his own agenda. And he is not inclined to stifle his criticism of

press. And he's especially displeased that Administration officials don't seem to care much about welfare reform. Moynihan preoccupation for the past decades. "I'm pretty satisfied his [Clinton's] mind is on it," the Senator says. "I'm not sure everyone in the Administration thinks that way."

Because the Finance Committee has jurisdiction over the bulk of Clinton's domestic agenda—55% of all federal spending—these views can't be ignored. As the President found out in January when an anonymous aide told a reporter that Clinton would "roll right over" the New Yorker if he opposed the Administration's efforts, he needs Moynihan.

a real screwup," observes a senior on adviser. Says Brookings Institution political analyst Stephen Hess: "It so gratuitous, unnecessary, foolish, juvenile—and inaccurate."

Chief White House lobbyist Howard Paster, a Capitol Hill veteran, has tried to patch up the relationship ever since. Senator Moynihan has been around the White House for a long time," says Paster. "He is not going to speak his mind, and he is not going to withhold judgment. The good part is: He has voted with us consistently. There's no sense that he's trying to undercut the Administration."

During the years that he has been climbing up the ranks of the Finance Committee, Moynihan has rarely been heard in tax debates, although he has worked closely with former Chairman Dan Rostenkowski (R-Ill.) to craft the 1986 Tax Reform Act, which lowered rates and eliminated many deductions. But unlike Clinton, he is philosophically opposed to using the tax code to promote social policies. That's one reason he doesn't like the ITC.

tical of a value-added tax, which the White House is considering to fund its health-care reforms. He dislikes the hidden nature of the tax and believes it would be a nightmare for businesses to collect. Implementing a VAT along with the energy tax Clinton has already proposed would be "a doozy," he says. "If you think you can do that and a value-added tax in the same decade, then you know more than I do."

The need to fight the deficit may also keep Moynihan from pushing some of his own favorite tax provisions. "There is a very strong case for indexing capital gains," he notes. "But we have been adding \$1 trillion in debt each Presidential term since Mr. Reagan, and we're scheduled to add \$1 trillion this Administration. That is issue No. 1."

The deficit handcuffs will also spur Moynihan's desire to shift more of his committee's attention from taxes to broader social policy. "We think of the Finance Committee as the *Finance* Committee, but we don't think of it as the committee where most American social

residence in the Nixon White House—where he won notoriety for his warnings about welfare dependency and the deterioration of the black family. Nixon named him envoy to India, and Gerald Ford tapped him as U. N. ambassador.

MAJOR-LEAGUE POWER. In 1976, Moynihan won a Senate seat in his first bid for elected office. He has generally voted as a loyal and liberal Democrat on domestic issues while taking a more hawkish stance on foreign policy. And he has earned a reputation as a brilliant and eccentric intellectual in the clubby Senate. Moynihan made the big leap to major-league power on Capitol Hill this year when he moved into the vacancy created by the appointment of Finance Chairman Lloyd Bentsen as Treasury Secretary.

How much will he influence policy? Critics charge that Moynihan's desire to work with the White House will make it easy for Clinton to co-opt him. "I don't know if Moynihan has the political strength to stand up to the White House," says Heritage Foundation tax

DESIGNING THE TAX CODE FOR SOCIAL GOALS

main principle is: You want the tax code as little as possible to affect economic behavior. You don't want people doing one thing and not another thing because there is a tax on it."

CLINTON'S INVESTMENT TAX CREDIT

Clinton just has a reputation it has to overcome on the tax-writing committees, in the [economics] profession, and in the business community. It is that it just invites the kind of manipulation of the tax code which we all said we were against. . . . It's the '86 principle issue here."

ON A VALUE-ADDED TAX

Republicans are not going to be pleased. They will like the reform, perhaps, but they won't like the idea that it's an invisible tax on the private sector. It makes for more public-sector activity. We're living off the payroll tax right now. . . . The value-added tax is as simple as it sounds. A good rule is if you can't explain it, you can't pass it."

Bill, Moynihan is a successful politician—and no purist. He regularly pushes for tax breaks that benefit New York City, unions, cooperative apartment owners, and stockbrokers. And he good-naturedly acknowledges the occasional inconsistency. "We're going to have an energy tax, which we need," he told *WEEK*. "If you have to raise money, it's a legitimate area. . . . It is a really good social policy. Whoops! I didn't have said that."

DOOZY. Moynihan readily admits that more taxes are needed to pay for the Democrats' social agenda. But he'll try to keep any excessive tax-and-spend activities. Moynihan is especially skep-

tical of a value-added tax, which the White House is considering to fund its health-care reforms. He rails about bureaucrats in the Health & Human Services Dept. who tend to resist any changes in the welfare system. Work, not dependency on the government dole, is the answer to America's cycle of poverty, he claims. "There is no worse thing for a person than not to have a job," he says. "And there is no finer deed than that society can perform than to find someone a job."

Moynihan has thought about these problems at least since his days as a New Frontiersman at the Labor Dept. in the 1960s. After a stint back at Harvard, he returned to Washington as an urban-affairs expert and Democrat-in-

ON THE NEED FOR BIPARTISANSHIP

"Health care is either going to be a bipartisan matter or there is no point in even bringing it up. On the Republican side, Senators Chafee and Durenberger and Packwood . . . have really worked hard on health care. We wouldn't have enough smarts to do it without them—and I wouldn't want to."

ON DESIGNING A HEALTH-CARE REFORM PROGRAM

"First, do no harm. . . . We have to be careful what we cut open or cut off. We have an elemental problem in health care: We have to persuade the American middle class to go to the doctor a little less often. And the only known way to do that is to [make them] pay in more immediately visible ways."

ON THE NEED FOR WELFARE REFORM

"We can show you with some precision that in 1980, 31.5% of children born in the United States would be on welfare before age 18. . . . You're absolutely wiped out. . . . Welfare reform is a huge commitment. . . . I'm pretty satisfied [Clinton's] mind is on it. I'm not sure everyone in the Administration thinks that way."

analyst Dan Mitchell. But others suspect he's made of sterner stuff. "Moynihan is in a very powerful position and he has deeply held long-term views," says Lee M. Miringoff, director of the Marist Institute for Public Opinion. "There is no doubt that he is going to force Clinton to move on some issues."

The Clinton Administration doesn't like to be pushed around, especially by a Democrat. But the White House has no choice but to listen to Professor Moynihan's lectures. And if the President does, he might learn a few lessons, not only in economics but also in the tough reality of dealing with social issues.

By Richard S. Dunham in Washington

THE OLYMPICS



A HIGH HURDLE IN ATLANTA

If TV bids fall short, the '96 games could face major money woes

That clock won't let Billy Payne relax. It stands in the lobby of his Atlanta Committee for the Olympic Games (ACOG), counting down the days and hours until the torch is lit to start the 1996 Olympics. Five years ago, the millionaire real estate attorney spearheaded a longshot bid to land the centennial Olympics for his hometown. Although Athens, Greece—site of the 1896 Olympics—was considered a shoo-in, Payne sold the International Olympic Committee on the virtues of Atlanta. "It's still sometimes a bit hard to believe the magnitude of what we're attempting," he says.

Payne may not want to believe it. With three years and three months left, facilities costing more than \$500 million—including the Olympic Stadium—are still mere blueprints. Raising the estimated \$1.57 billion needed to stage the fourth summer Olympiad on U.S. soil will require big bucks from corporate sponsors, licensing agreements, tickets, and most important, broadcast rights. The negotiations for American TV rights, for three decades the financial lifeblood of the Olympics, will begin in late July. Payne needs a hefty rights payment to meet the games' costs,

but the Big Three networks are making it plain that the era of sky's-the-limit bidding is over.

Five years ago, Payne confidently predicted that U.S. rights would fetch \$600 million. That figure now looks about as probable as a 10-foot high jump. "It could go as low as \$400 million," says one network sports executive. A shortfall of that size could saddle the ACOG and the IOC with a loss.

Stung by huge losses on Major League Baseball and the National Football League, the networks say they're looking at the Atlanta games with the cold eyes of an accountant. In recent years, ABC has loudly proclaimed its refusal to pay loss-leader prices for show-

case programming. CBS, hit especially hard on its sports properties, may be as hungry as it was three or four years ago. And after losing a reported \$75 million on the 1992 Olympics in Barcelona, NBC is proceeding cautiously.

Payne no longer ventures a guess to what the ACOG will get for the rights but at least he didn't have to open bidding last year. With the economy dumping in 1992, Payne and the ACOG decided to delay the rights sale. They could afford to because of a shrewd financial maneuver by Payne. Under ordinary circumstances, construction budgets would have forced the ACOG to negotiate in 1992. But armed with a \$300 million line of credit from NationsBank, which allowed venue planning to begin, Payne and the IOC were able to wait. "The line of credit gives us flexibility," says Payne. "Without it, we probably would have been forced into negotiating before we wanted to."

TEAMING UP. Network officials concede that the Atlanta Games are a more valuable property than Barcelona's were because they will be contested in the Eastern time zone and will provide two weeks of live, prime-time programming. But that probably won't persuade a network to scoop up all the rights for itself. Instead, the networks are likely to link up with a cable outfit. Bids could include ABC and ESPN, both owned by Capital Cities/ABC Inc., and Atlanta-based Turner Broadcasting System Inc. with any one of the three networks. "I think the IOC recognizes how deal with a network-cable bid could maximize revenues," says Kevin O'Malley, Turner's sports programming vice-president. The winning bid may also contain wrinkles as an agreement to pay additional fees if advertising revenues exceed an agreed-upon threshold.

So far, other fund-raising efforts have exceeded expectations. European rights went for \$235 million—more than twice the fee for Barcelona. And despite grumbling from many of the sponsors, the ACOG has sold sponsorship rights to Anheuser-Busch, Home Depot,

IBM, NationsBank, and Sara Lee for an average fee of about \$40 million. But with the worrying about rights, an additional \$100 million to seven big-money sponsors would give Payne some much-needed breathing room. Unless that happens, though, the ticking of that darn clock in the lobby will just be getting louder.

By Keith Dunnivant in Atlanta

THE TOUGHEST OLYMPIC EVENT: FUND-RAISING

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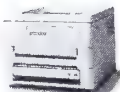
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THE BUSINESS OF THE



Over the years, the handling characteristics of American luxury cars have earned them certain nautical nicknames. As in: "boat," "land yacht," "tuna clipper." But with the new Chrysler New Yorker, other kinds of descriptions apply. Because this is the first full-sized 6-passenger luxury car.

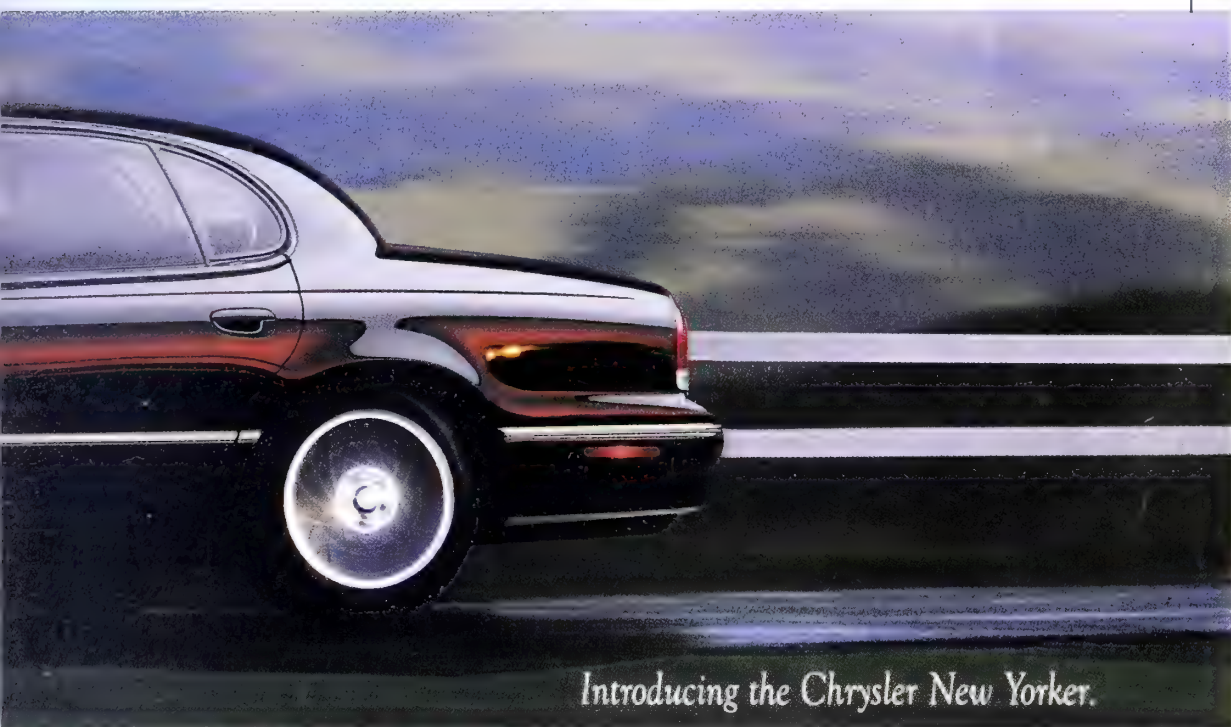
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Tournament Tough



Above, Dave Stockton
eyes his next shot

By Tim Rosaforte

Every Wednesday at most PGA TOUR sites, you can see them on the tee. They're trying not to look nervous. But the white knuckles on the grip are a giveaway. For the most part, they're petrified.

It's pro-am day, and the country club players are out to test their game against the finest players in the world. For weeks they have been hitting balls, taking lessons, practicing their stroke, doing whatever they could to keep from embarrassing themselves with the big boys.

Captains of industry who preside over million-dollar deals can't take the club back when it's their turn to hit. There's a big gallery around. They're out of their element.

"They're here because they do well in what they do, because they're the best at what they do in other parts of the world," says Curtis Strange. "These guys are the top, the elite, in their game."

In preparing to play in a pro-am, there are a few things to remember.

The first is that Curtis Strange is not going to bite, that he would be as uncomfortable in your environment as you are in his, and that this is not the board room or the operating table or the judge's chambers. Leave your cellular phone in the car. Forget about

what you read in the golf magazines. Pretend like the gallery doesn't exist. And above all, don't expect a career round.



Steve Elkington

It's as Ben Crenshaw says. "Put the shoe on the other foot. How ludicrous would it be for us to step in your office and do what you do?"

Don't Worry, Be Happy

No matter how you're playing, have fun. "One pro told me there's only two reasons to play golf," says Jeff Sluman. "One is to make a



ing. The other is to enjoy yourself."

"I usually tell them to relax the first couple of holes. If you're not going to make a living at it, enjoy it."

"Enjoy the fact that you're playing with someone who does this for a living," says Curtis Strange. "Just have fun."

"Wednesday is their day," says Peter Jacobsen. "If a guy outdrives me on a hole, or beats me on a hole, or beats me in a round, nobody is happier than I am."

Play To Your Comfort Level

Many times amateurs go into a grind mode for 18 holes trying to prove they're great players when they're good players, or good players when they're average players, or average players when they're mediocre players, or mediocre players when they're beginners. They miss the point. "If a guy

is between a 2 and an 8 handicap, he ought to shoot 80; they shouldn't try to birdie every hole," says Chi Chi Rodriguez. "If they're between 8 and 16, they should try to shoot 85. A lot of times, their expectations are too high and they try too hard. What they should do is practice their short games because they're going to miss a lot of greens because they're nervous."

Hang Loose

The tighter you are, the worse you'll play; the worse you'll play, the less fun you'll have. It's the same for the pros during tournament rounds as it is for you in the pro-am. "The main thing is to treat it as a fun event," says U.S. Open champion Tom Kite. "No matter how tense or relaxed we are, the more fun we have, the better we play, or the better we play, the more fun we have. I don't know what comes first. But the guys who are having fun and talking are the ones who are going to play good."

"Just go out there and free-wheel it," says Mark O'Meara. "Don't go out there and think your game is going to improve all of a sudden. The famous words in a pro-am from an amateur are, 'I've never played this bad.' I feel like saying, 'Wait a minute, yes you have. It's OK. You've played worse than this.'"

Accepting Less Will Mean More

Don't try and shoot your career round in a pro-am. Seldom does that happen. The courses are set up for a PGA TOUR event, so chances are, they're tougher than your home layout. Find a comfort level. Mellow out. Take a lot of deep breaths. Practice bio-feedback. "Everybody tries too hard," is John Huston's observation. "Everybody wants to play their best round, and it kind of backfires on them."

"They want to produce their best stuff, but expectation gets in the way," says Denis Watson. "That happens on every level of golf. When you have expectations, they tend to let you down."

Captains of industry

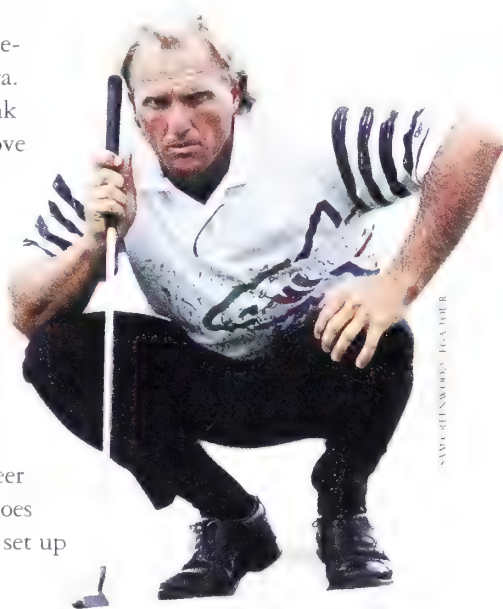
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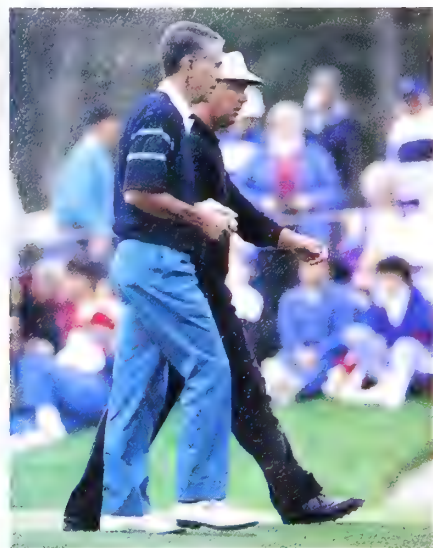
back when it's their

turn to hit.



Greg Norman

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Mark O'Meara and his partner Bob Allen, AT&T

"These guys put on a three-piece suit every day and go to the office, so they can't expect too much of themselves," says Curtis Strange. "What I see is they take themselves too seriously."

It's OK To Be Nervous

Don't fight it. Experience it. Learn from it. But get over it. "All of us professionals, we get nervous, we can relate," says 1993 PLAYERS champion Nick Price. You think Price wasn't nervous at the TPC at Sawgrass? You bet he was. He knows that your pro-am is

your Sawgrass. "I always just try to make them as comfortable as possible," is Price's first move. "If they hit a bad shot on the first hole, I just say, 'Hey don't worry, these people are watching but once we get away from this, we'll be on the golf course and we can have a little fun and you won't be in the public eye as much.'"

Prepare For The First Hole

There are going to be people watching in grandstands and along the ropes. You're never going to be more nervous than this shot, because the gallery is so close. "If they play bad the first hole, I'll tell them, 'Geez, you guys are horrible. I hope you're not going to be that bad the whole 18 holes,'" says Paul Azinger. If it's really crowded, like at the AT&T National Pro-Am or the Bob Hope Chrysler Classic, Azinger might tell them something funny, like, "Don't worry, they have Port-o-Lets."

If You Hit A Bad Shot, Laugh It Off

It's going to happen. You might lay the sod over an iron or slice a drive into a pond. You might even three-putt from 10 feet. When it happens, don't blow up — blow it out. "It's not life or death," says Denis Watson. "If you whiff it, I'll pick it up. If you whiff it, I'll look the other way."

Some pros may give you a little ribbing, but if they do, consider it a compliment. That means they're your friend.

"If they completely botch up a tee shot, I might say, 'Nice shot out of that lie,'" says Greg Norman. "You give them a little tongue-in-cheek jab, and that loosens them up."

Don't Try To Beat The Pro

Sure, it would be nice to go home and tell the kids, "I outdrove John Daly." But let's get real here. These guys are the best in the world at what they do. Sure, you're competitive. If you weren't competitive, you wouldn't have the kind of money it takes to play in a PGA TOUR pro-am. But put your ego on hold for five hours, play within yourself, and if you happen to birdie a hole while the pro makes par, great. You're a hero. If you don't, don't worry about it.

"I've got the advantage in that I'm such a short hitter, they outdrive me," says Dave Stockton, the two-time PGA TOUR champion. "That kind of loosens them up. They think, hey, this guy is a piece of cake. Of course, none of them can out-putt me. I couldn't tell you how many times I finish a pro-am round and say, 'Well guys, sorry about that. But you're going to be shocked in four days when I win this tournament.'"

Be A Team Player

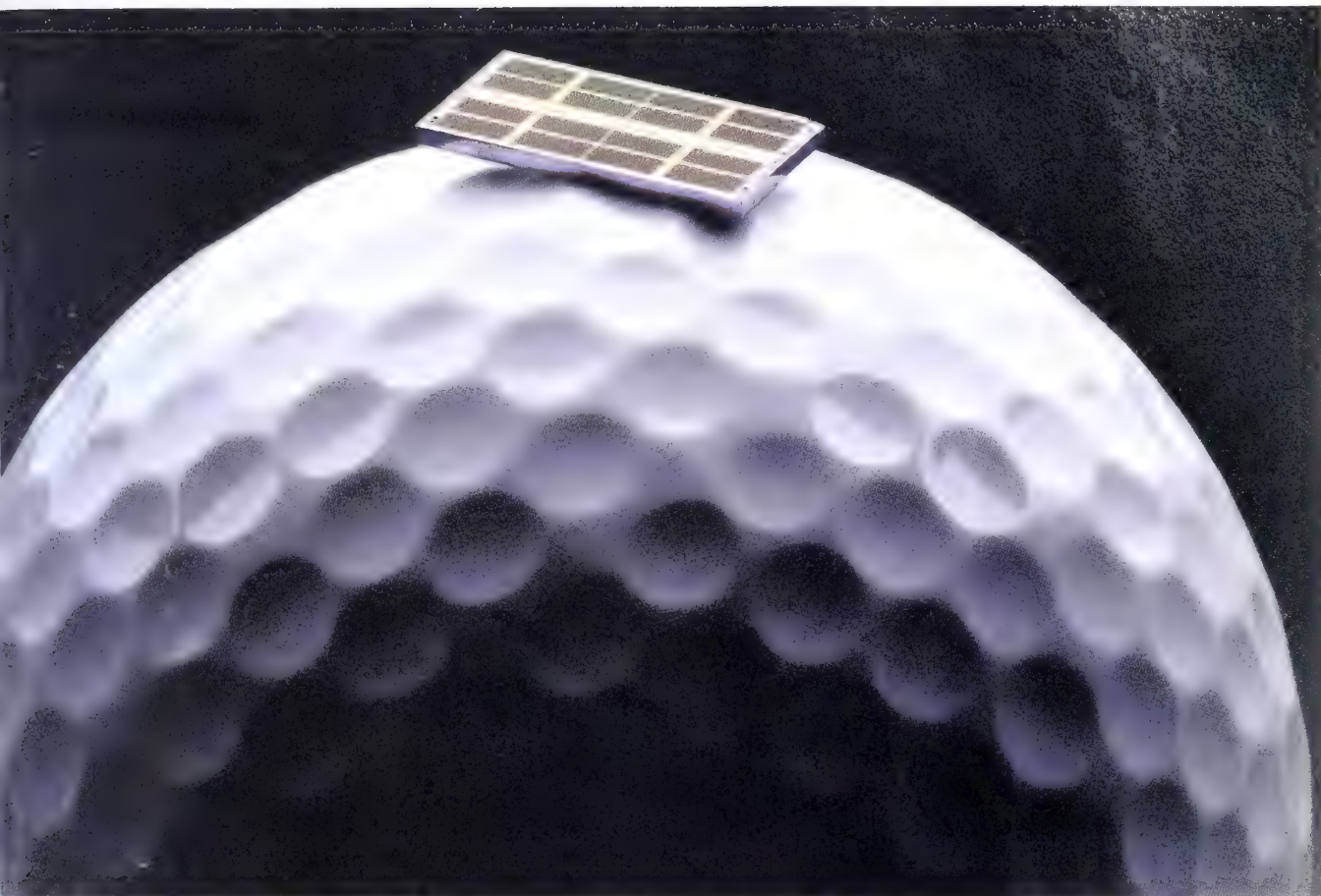
If you're out of the hole, pick up. Don't try to get your money's worth by chopping to a quadruple bogey when someone in your amateur foursome is looking at birdie — net eagle. It slo



Paul Azinger celebrates after chipping in.

Sure, you're competitive. If you weren't competitive, you wouldn't have the kind of money it takes to play in a PGA TOUR pro-am.

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up play, tires you out, gets the pro impatient and takes away from your partner's chances of sinking the putt.

"I always tell my amateurs, if everyone contributes two good holes a nine, we're in good shape. That's 20 under," says Steve Elkington. "That makes them relax a little bit."

Don't Think Score

"What they have to realize is there's some other guy in another group with 20 shots who's going to kill them anyway," says Kite.

There's also the theory that the pro-am team that knows it's nine or 10 under at the turn is less likely to win than the team that's seven under. Why? They try to force putts in the hole and choke. Stockton won't let them keep score because of this. "The team that's going to win is the team that's six under, has four beers at the turn, they relax, and bam, they go for it on the back side," is Stockton's observation. "The ones who say, 'We're 11 under!' They're not just playing the golf course anymore."

"Too many people play in these pro-ams and really want to win so badly they make their day miserable because they try to do things they don't normally do," says Lanny Wadkins. "I tell them, 'If we play good, fine. If we don't, let's have a few good laughs.'"

Tom Kite on the range.



Ben Crenshaw finds success on the putting green.

"They shouldn't even give prizes," says Davis Love III. "Everybody should get the same thing."

Know Thy Partner

"Pro-ams are a team concept," says Steve Elkington. "So you're going to be playing with some other guys in the group. You should get to know everybody immediately."

Interact

Ask the pro questions you always wanted to ask. Make conversation. You're not just out there to play golf and go to a cocktail party.

This is a chance of a lifetime. The pro knows this. He's not out there trying to shoot 60. He's out there as an ambassador. "I try to create a level of understanding between human beings in two different worlds," says Peter Jacobsen. "It's not that we play well that's important," says Scott Hoch. "It's that they remember how we were to them. The most important thing to have a good time."

This Isn't The Lesson Tee

The worst thing to do is change your swing in the middle of a round. You pro will respect this better than any one. If you want advice, ask. But wait until after the round to try it. "I don't say a word until I see four or five holes," Stockton says. "It takes me that long to see their normal swing, their normal action. Even if they do tell me they want the information, I tell them, 'Fine, enjoy yourself, I'll

ou know after about five or six holes, you develop trends.' I like them to get adrenaline out of their system. It's like a prizefighter taking a punch."

Use Your Senses

re going to be playing with one of the best players in the world. Study his setup, his tempo, his pre-shot routine, the way he lines up putts, how he manages his game. It will make you a better player. "You can learn a lot just by watching the pros," says Steve Elkington. "Keep your eyes on the ball. Take in any tips you can get just by watching."

Practice Doesn't Make Perfect

Sluman noticed during the Michael Jordan Invitational in Chicago that his group was golfed before they got to the first tee. "A lot of the guys had just finished practicing more than they ever have," Sluman says. "It hurts them. They over-rehearse."

Think Slow, Swing Hard

re get a little excited, our tendency is to swing a little harder," says Scott Hoch. "Just slow down and don't think of too many things."

Have a smash at it," says Greg Watson.

The first two or three holes, go for the whole on it," says Greg Watson. "Then back off."

Free Your Mind

ve got a big pro-am coming up, so you call up your pro and sign up for 10 lessons. You rent your *Golf My Way* video and pop it in the tape deck. Then go to your club and spend an hour on the swing trainer making sure you're "on plane." What? Wrong.

A lot of them will get lessons before they start, and they'll have three or four different keys to think of," says Scott Hoch. "They're usually overloaded with so many thoughts. My belief is you can't think of more than one thing in a golf swing."

The best suggestion is to follow the K.I.S.S. theory.

That's Keep It Simple, Stupid.

You get so, you can't pull the trigger," says

Jeff Sluman. "You become more frustrated, you get more tension, and it kind of snowballs from there."

"I see them going out to the driving range trying to figure out how to make it better," says Davis Love III. "All of a sudden they panic, listening to a caddy they've never seen before who doesn't know what they're talking about."

"They get worn out with the left hand going here and the right hand going there and the left foot going here," says Wadkins. "Do what you normally do when you play with your wife."

Break In Your Shoes

Don't go out and buy a new pair of Foot-Joy Classics for the pro-am without playing cart golf with them first. "They come out



Davis Love III

there in shoes that don't fit, pants that are too tight," says Dave Stockton. "They've got the best stuff. It's nothing like they normally have. It's like us playing at the Masters and the U.S. Open."

BREATHE

Breathe?

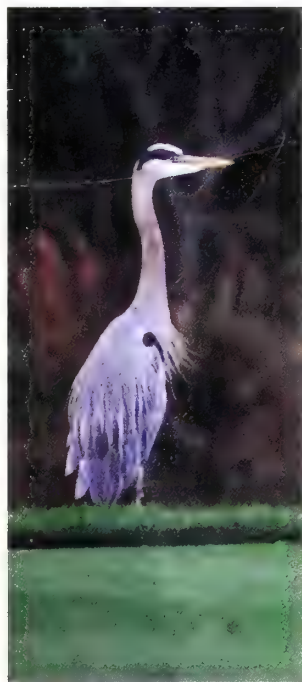
"Yeah, breathe," says Denis Watson. "They get on the first tee and everything locks up. It's very good to breathe." ▲

Greener

T H A N E V E R

By Gordon S. White, Jr.

Photography by Pete Fontaine/PGA TOUR



A Great Blue Heron looks over the Stadium Course at Saugras.

"If you're a bird migrating from Alaska, the Yukon or British Columbia down to the Leeward Islands or Venezuela or wherever and you're traveling over metropolitan Las Vegas and look down, there's a lot of desert. But you keep moving and looking down and suddenly there, right over there, is some green. A little glide downward and you see shrubs and trees and some wetland areas with insects and some cover as a good place to rest. Then you know you're going to make it all the way to Venezuela because there is habitat with life along the way."

That's how Ron Dodson, president of the Audubon Society of New York State, envisions a migratory bird's hunt for a resting spot just as we car-driving mortals might look for the next fast food joint along I-10 between El Paso and Tucson.

Upon closer examination, Dodson's migrating bird in Las Vegas will see those big, two-legged animals in peacock-bright colors beating to death a small, round, white thing that looks something like an egg. That is because this bird has come to rest for a while on the Tournament Players Club at Summerlin in Las Vegas. And since all 11 courses in the United States TPC Network are in the Cooperative Sanctuary Program of the New York Audubon Society, TPC at Summerlin is a particularly inviting pit stop for migratory birds.

"In my estimation, one of the most important things that folks at all TPC courses and golf courses in the nation can do is to think which birds might use their courses for just a short time in the migration period," Dodson said. "Then work to enhance the habitat for those birds."

The Audubon Society of New York State began the golf course Cooperative Sanctuary Program five years ago under the direction of Dodson and his staff and with the blessing of the United States Golf Association, which has contributed financially to this enhancement of natural resources. Dodson got the idea for the golf-sanctuary program when an upstate New York golf course superintendent called the Audubon Society in Albany looking for



TPC at Summerlin in Las Vegas

answer to a serious infestation of skunks on the fairways. Nearly 1,000 golf clubs have joined in the Cooperative Sanctuary Program so far, including the PGA TOUR's Tournament Players Clubs, which have one of the most extensive Audubon programs in the nation.

This TPC project is headed by Cal Roth, director, golf course maintenance operations for Tournament Players Clubs of the PGA TOUR. Roth works out of the TOUR's home office in Ponte Vedra, FL. In its guide to managing these Cooperative Sanctuaries, the New York Audubon Society writes: "Across the United States, golf courses provide valuable green spaces for wildlife. Embracing the natural landscape, golf courses provide habitats rich in local plant and animal species. In the American countryside and the wildlife it supports are disrupted by the development of towns, suburbs, industry and roads, we must thoughtfully consider ways to protect and enhance existing habitats. Ultimately, land managed for wildlife is also more satisfying and enjoyable for people."

Suggesting ways to manage golf courses for wildlife, this Audubon guide recommends: hanging feeders, mounting nest boxes for birds, and managing woodlands, ponds and play areas with the needs of their wildlife in mind."

TPC courses indicate a variety of results achieved through proper land and wildlife management with the help of the Audubon Cooperative Sanctuary Program. In each case, the TPC protected the existing wildlife at the golf course property and then added greatly to the wildlife on the course.

Examples of TPC-Audubon cooperation include the original TPC course at Sawgrass in Ponte Vedra, which was a soggy swamp in northern Florida before the first golf courses were built there in the 1980s; the TPC at Summerlin in Las Vegas, located in a high desert that is naturally as dry and parched as Sawgrass is wet



An osprey makes its home on the Stadium Course at Sawgrass.

and muggy; and the TPC of Michigan in Dearborn, where Jack Nicklaus designed a course that is built atop a former industrial dump used by auto manufacturers for disposal of scrap iron, rubber tires, plastics, glass, etc.

Dodson said he could identify over 200 species of birds at the TPC at Sawgrass over the course of a year.

Among those birds are the bald eagle, that nests there in the winter; the wood stork, osprey, blue heron, screech owl, many varieties of hawks and, among the smaller birds, the eastern bluebird, tufted titmouse, Carolina chickadee, various woodpeckers and purple martin. Nest boxes are being provided for those birds that use them while other provisions are being made for the bigger birds' requirements.

There is an osprey nest atop a tall dead tree back of the seventh tee on the Stadium Course at Sawgrass. Cal Roth's crew has kept many dead trees in place just for the purpose of providing nesting places for those raptors that want the high nesting places.



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Jean Mackay, a staff ecologist with the New York Audubon Society, said that where no tall dead trees are available as they are on the TPC at Sawgrass, ground crews have been getting help from local telephone companies giving the courses old, rotting telephone poles that are replaced regularly. These poles provide superb nesting platforms and perch locations for the raptors such as hawks and osprey.

Roth said, "The bald eagles are the really dominant bird on the course while they are nesting at Sawgrass, usually from November to March or April."

And of course, down on the ground and in the water of Sawgrass there wriggles the water moccasin, copperhead, rattler and alligator while some of the best big mouth bass in the country swim the waters. Walking through the underbrush are raccoons, armadillos, rabbits, numerous rodents and deer.

At Las Vegas, desert tortoises in the area of the course have been protected. Since lakes and plants were added to the Summerlin project not only do migratory birds make pit stops there but so does the monarch butterfly, that big black and orange beauty that travels from Canada to Mexico and back each year. Milkweed, the monarch's source of food and protection, is planted in these golf course habitats specifically provide a spot of life and survival for the majestic butterfly. Milkweed consumed by the monarch butterfly is toxic to any bird that tries to eat the monarch.

Even though the TPC of Michigan turned a dump site into a pretty, green vista to attract golfers, as well as wild birds and small animals such as raccoons, squirrels, rabbits and woodchucks, the course is still surrounded by high speed highways and the noise and pollution that goes with that. It is located only a few moments

drive from downtown Detroit.

Because of the PGA TOUR's concern and the Audubon Society's help, the Dearborn course has been one of the prime reasons that Cal Roth said, "There is no question that the golf course programs are increasing wildlife that seek that type of habitat. Increase the wetlands that normally exist and increase the environment for small birds and small rodents that are the food chain for larger animals and you increase a great number of species of animals."

"Every year since opening at Dearborn we've added \$125,000 just to develop wetlands habitats there with native plant materials. And we've added signs to explain to golfers what animals and birds are there."

As part of the Cooperative Sanctuary program, each TPC course has signs alongside the fairways to tell players just what to look for in the way of wildlife. At TPC course the players are considered customers who "should have an experience in golf and nature to remember forever," according to Roth.

Agreeing that golf courses in the Cooperative Sanctuary Program are



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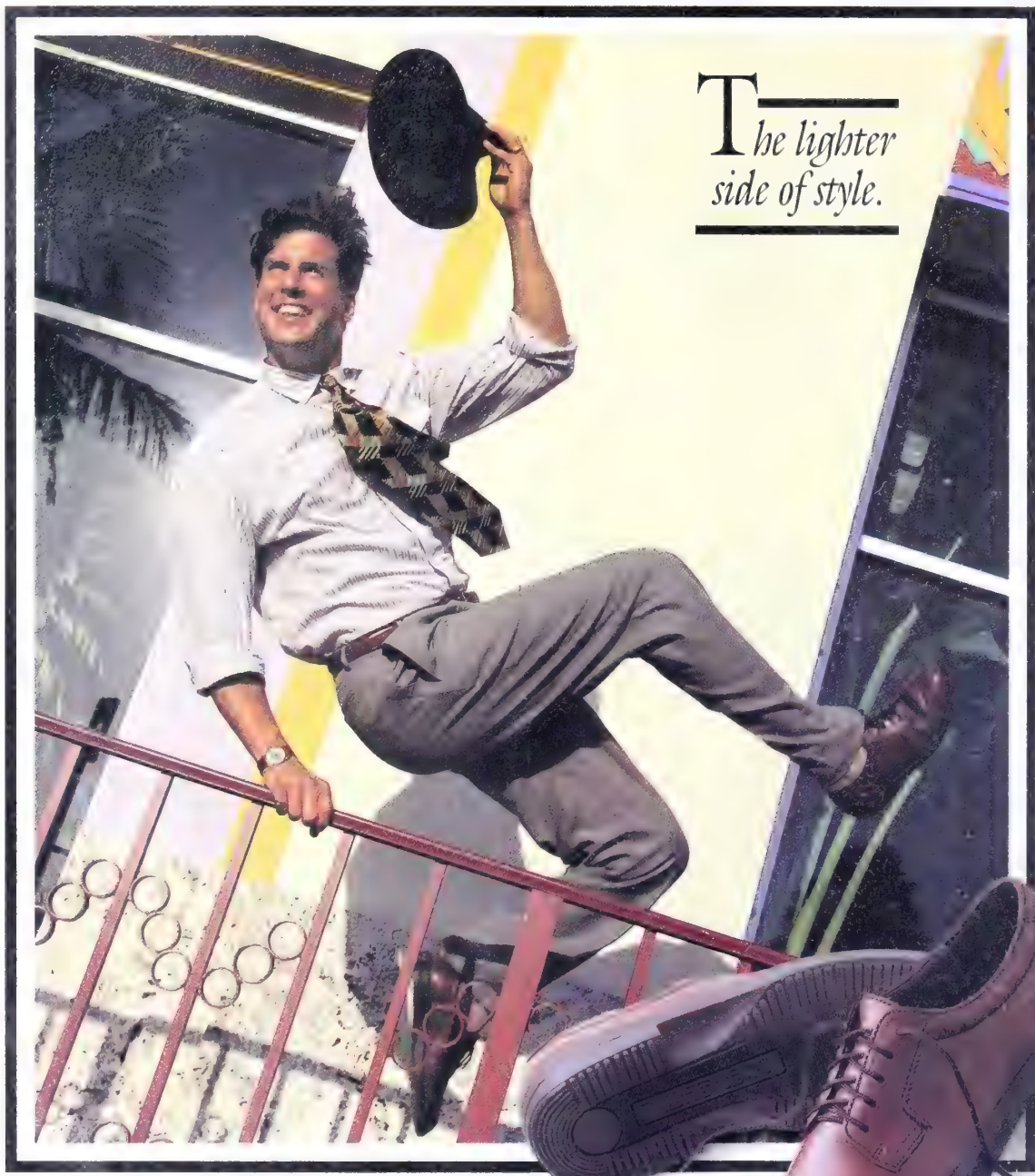
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ng to wildlife populations, Dodson
 "The Audubon Society of New York
 ying to get people to think that all
 gs on the golf course are interrelated
 ogically and think of the basic neces-
 s of life: food, water, cover and space."
 Instead of solving a temporary problem
 as white grubs in the fairways by
 g harsh pesticides, Dodson suggests
 green keeper or superintendent
 ve some roses to another location
 ne property so that the white grub
 panese beetle moves also. People
 ld think of alternatives to dropping
 bomb."

ven in the construction of a new
 se, Dodson recommends that before
 big land-moving machinery goes to
 k to shape a course, serious consider-
 n be given to what lives and grows
 he property.

We suggest designers and builders of
 es learn the habitats of any species on
 proposed course site. Then we suggest
 rporating that habitat in the design of
 course so that rather than going in and
 pletely changing home sites of these
 nals and plants the builders map out
 ain sensitive areas and protect and preserve
 e habitat areas. Maybe this will mean
 ing the course a bit differently than
 inally planned. But in the long run it
 preserve and enrich the natural setting,
 ch only makes the golf course more
 yable for everyone and everything that
 s and grows and plays on the course."



*Aningas and Cormorants
 find comfort on the Stadium
 Course at Sawgrass.*

There are four TPC sites in Florida, one in Connecticut, one in Maryland, one in Arizona, one in North Carolina, one in Tennessee, one in Michigan and one in Nevada. Other licensed TPC facilities are in Texas and California. The TPC of Scottsdale consists of two 18-hole public courses, one of which is the Stadium Course used annually for the Phoenix Open. The other is the Desert Course that provides a superb location for wildlife and desert vegetation that made it possible for the construction of another new course in the Phoenix area.

As in Nevada, laws in Arizona require that no desert plants or vegetation may be destroyed during the construction of a home, building, or even recreation area such as a golf course. Those plants must be moved and replanted.

"We went into the Desert Course at Scottsdale," Roth said, "And planted 22 acres of desert plants and vegetation from another site. People at that other course being constructed in the valley made arrangements with the city and with the Arizona fish and game department to move their wildlife habitat over to our golf course. So we have 22 acres of trees and shrubs and grasses from the other site solely for the purpose of creating a wildlife habitat."

No longer is a walk of four or five miles around a golf course just an exercise in frustration. Now we can think of golf, at TPC courses in particular, as a truly enjoyable experience with nature. ▲



McCallister lands and releases a large mouth bass.

Chippin' Away

By Bob Verdi

In no other sport — baseball, basketball, football — is true, red, white and blue American capitalism so evident as in golf. It's each to his own ball in golf, with no guaranteed long-term contracts, regardless of performance or ability even to participate. If a golfer incurs injury, there is no paycheck awaiting him upon his entry to the whirlpool, and no

team official handing out meal money at the port before each trip — about \$60 in sports we know and love. In golf, there are no teammates to make you forget a bad day at the office and, of course, the homily is painfully true. In golf, rules require that you play your foul balls.

Oh, it sounds so cushy, this idea of strolling plush green fairways on all those shiny days. Travel, courtesy cars, sandwiches in the locker room.

And then comes the good part. Every Sunday some 70 or so of the chosen few tee it up for the privilege of divvying up maybe \$1 million or so in tournament prize money. Not bad if you can get them. Not bad at all. Then, you repeat this process virtually every week of every year, from January through October, at which there is a brief intermission decorated by all varieties of special events for fun, but mostly profit.

And they call this work?

Alas, there is the other side of the moon. Granted, homelessness and starvation, two of that bedevil our society, are not burning issues on the wildly-successful PGA TOUR. But the 70 or so golfers of whom we spoke have accomplished no small task. They've survived the cut. Half the field doesn't each Friday, and those gentlemen depart the premises poorer for the experience. In no other athletic endeavor is there such quality control. Literally, golfers are in a league by themselves. In golf, the only sure winner is charity — \$22 million plus in 1992, more than all other sports combined.

Don Fournier



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Four members of the PGA TOUR earned in excess of \$1 million in official money during the 1992 season. How many \$3 millionaires are there in baseball as we speak? Last count, 100. Tom Kite, the all-time career banker, has declared more than \$1 million since joining the TOUR in 1972. Meanwhile, Dan Forsman, in San Francisco, the only player who has committed to an agent, has committed to an agent named Barry Bonds for something like \$42 million. It's all relative.

You want depth of competition? Consider this. Dan Couples led that 1992 money list with a haul of \$344,188, off a TOUR-average scoring average of 69.38 strokes per round. In the 20th spot on the money list was Tom Haas, who earned \$629,628, or slightly more than half of Couples' bankroll. Yet, Haas' scoring average was 70.02 per round, or merely one stroke worse than Couples'. And you wonder why these fellows take their time about picking up a three-foot putt? Why they don't smile and tell jokes as they stand over the ball? Enough of this. Let us gently probe the bottom lines of three card-carrying members of the PGA TOUR (another story that is altogether, securing that precious document they all had to get through the door of the clubhouse). Dan Forsman, 34, on the PGA TOUR since 1983, had amassed \$2,274,656 lifetime earnings by 1993. Finished 10th on the 1992 money list with \$763,190, his best season by far. Winner of four tournaments, including the 1992 Buick Open. Established pro, can beat anybody or everybody on any given Sunday. Tom Lehman, 34, joined the TOUR in 1983 for a cameo appearance and then again in 1992. Earned \$579,093 last year, or almost his entire career's total. Better later than never, declaring himself on the pro circuit and gaining respect each week. Maybe even a "hello" from superstars who didn't know he was around before. Kelly Gibson, 28, earned \$137,984 last season, his first on the PGA TOUR, to finish



Tom Lehman

105th on the money list. Played several seasons on the Hogan, now NIKE, and Canadian tours, has played well early this season. One of the numerous young turks who make sure the veterans know what's moving up in the rear view mirror.

Forsman, Lehman and Gibson might be names and faces to be placed later by the average fan who is familiar with Couples and Kite or the "Great White Shark" and the "Golden Bear." But Forsman, Lehman and Gibson are what the TOUR is all about — quality within the quantity of players who are all ready, willing and able

to seize the moment, then the trophy and then the spotlight. But that ride to the first tee with the last group on Sunday can be turbulent, nerve-racking and rife with disasters, unnatural and natural.

"I'm not complaining, because this is what I want to do and what I love to do," said Forsman. "But there's a whole lot that goes into it. I won the Buick Open last season (in a play-off with Steve Elkington) and that meant first prize of \$180,000. People look at that and say, 'wow!' Well, it is a lot of money. But I look at it that it's taken ten years for me to get into that position. There's a lot of sacrifice that goes into it, and a lot of expense.

"I've got a wife, Trudy, and two children, Ricky and Thomas. I want to be with them as much as I can, and that means bringing them along on the road. When I just started out, \$100 seemed like all the money in the world to spend on hotels and meals. It isn't that way anymore, but I still look for the most bang to the buck.

*Four members of
the PGA TOUR
earned in excess of
\$1 million in official
money during the
1992 season.*



Kelly Gibson

Tom Lehman



When we go to a tournament together, I figure on anywhere from \$2,000 to \$3,000 a week, depending on where you are and how far you have to go. Once in a while, you'll make friends with people who offer you private housing, but not often.

"Mostly it's hotels, and if you play 30 events, that's at least \$60,000 off the top. Then there's tipping. The locker room attendants all do a nice job and all have to live. My caddie is important to me, too, of course - Greg Martin. He gets a salary of up to \$500 a week, plus a percentage of my winnings up to 10%. It all adds up. We do get a break from Delta Air Lines on plane tickets, maybe 45% off full

coach fare. But if you buy one of those super savers to leave a tournament on a Sunday night, and you miss the cut on Friday night, what are you going to do? Hang around for two days, then go home to be with the family? You go home because there's no price you can put on that.

"I remember when I really was hurting for money, my rookie year on the TOUR. I had missed something like four cuts in a row and was at the Memphis Classic, in good position to survive. But I choked like a dog on the last couple holes, missed the cut, and just came into the clubhouse, stretched out on a bench and cried. That's what I mean about putting ten years in to be in a position to earn that \$180,000 at the Buick Open. If I make the same money for the next five or ten years that I made last year, maybe I'll get satisfied. You know, fat and sappy lose my edge. I don't think so. I hope not."

Forsman's lone concession to his windfall speaks well of his priorities and disinclination



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He's giddy. He'll finish up that basement on family home in Provo, UT — a project that isn't immediately concern Lehman, who has been chided by brother Jim as being the "richest apartment dweller in the U.S.A." Lehman, wife Lisa and their two young girls, Rachael and Emily, rent a modest three-bedroom residence in Scottsdale, AZ. They're looking around, but there's no hurry. If there's one thing Tom Lehman needs, it's patience.

Golf, alas, is like any other worthwhile endeavor. You work, work, and work in hopes of "making it," and once there, there is more work to stay there. Don't look over your shoulder, either Lehman might be gaining on you with newfound confidence.

On the Hogan Tour, if you spent \$50 for a hotel room, you felt like you were high on the "money," Lehman said. "We were all in the same boat, though, and that made it enjoyable. None of us had much, we were all struggling, and

there was great togetherness. It also taught you how to win. The money on the PGA TOUR can be staggering, even if you don't win. I picked up an added \$165,000 or so last year from endorsements and such. That's nothing, compared with what you hear a Phil Mickelson making. But, if I owned a golf company and I wanted to tie up somebody for the long range, he's probably the guy I'd want too."

Lehman, as Forsman, tends to be conservative. With kids in tow, the preferred accommodations on the road contain such amenities as kitchen facilities. Cooking in needn't be a nightly proposition, however, and if Lehman has to pop for \$250 to feed and entertain the family, what money could be better spent? He values his caddie, Andrew Martinez, who is treated accordingly: the salary is a flat \$500 per week, until and if Lehman reaches \$100,000 in earnings. Then the weekly salary grows by \$100. And so on, for every increment of \$100,000.

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DRIVERS		
✓CALLAWAY	57	41.3%
TAYLOR	29	21.0%
FOUNDERS	7	5.0%
MIZUNO	5	3.6%
PING	5	3.6%
DAIWA	4	2.9%
MACGREGOR	4	2.9%
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SEPTEMBER 24-27, 1992

DRIVERS		
✓CALLAWAY	55	37.9%
TAYLOR	41	28.2%
DAIWA	15	10.3%
MIZUNO	5	3.4%
CLEVELAND	4	2.7%
LANGERT	4	2.7%
YONEX	4	2.7%
COBRA	2	1.3%
All other drivers	15	9.6%
Total drivers	145	

#1 on the Senior PGA Tour

DARRELL SURVEY

1992 VANTAGE CHAMPIONSHIP
(PGA SENIORS)
TANGLEWOOD GOLF COURSE
CLEMMONS, NORTH CAROLINA
OCTOBER 2-4, 1992

DRIVERS		
✓CALLAWAY	37	45.1%
TAYLOR	20	24.3%
FOUNDERS	4	4.8%
PROBE	4	4.8%
SPALDING	4	4.8%
BRIDGESTONE	2	2.4%
CUSTOM	2	2.4%
ANVIL	1	1.2%
BULLET	1	1.2%
COBRA	1	1.2%
All other drivers	6	7.3%
Total drivers	82	

Lehman rithes 10% of wages to the worship of Christian Athletes. "My wife and I decided a while ago," said Lehman. "If I can't support us on what I make golf, I'll go do something else. There are a lot of chances to pick up a few extra bucks the way, with Monday corporate outings and such. But they can be hectic, not only for me and kids, but for me. If I can get to a point where I'm rested and focused and shoot two strokes better because of it, I'll make more than

what I could have by running all over. I'm still out here able to earn more than 98% of our population. You can finish 100th on our money list and still earn \$150,000. Not a bad thing. Not bad at all."

Forsman heartily seconds that sentiment about extra-curricular activities. Last year, while practicing for the Buick Open, he found himself with a long and arduous putt on the 18th green. Come Sunday, he ended up with a similar test that he needed. Had he been off somewhere else, who knows? Mind you, Forsman's agenda most definitely includes pro-am events. Payne Stewart said it best. Sundays are thought to be the most significant day on TOUR, but Wednesdays are the lifeblood.

"I give it everything I have when I play the pro-ams," Forsman said. "It doesn't feel right if I don't. Those are the people who support us, who pay the bills. If I can't give something back to the sport that's given so much to me, something's wrong."

Gibson, single and apparently carefree, has a head still, too. If he happens to be home and his beloved New Orleans Saints are also playing, he'll find a ticket and you can book it. He also owns the same '86 automobile that he had when reaching for the brass ring seemed like a distant possibility.

"I slept in some pretty raunchy hotels before I got here and sometimes, when I couldn't get a hotel room, I just slept in the car," Gibson said. "I have the fear of failure in me, which is probably pretty good. There are so many veter-

ans who can play on the TOUR, and so many young guys like me who think they've got it made and then disappear. I don't know whether I have the game to make it out here. I think so, I hope so. But I have my insecurities. I also know there's nothing else I want to do with my life, if I can do this. I keep in touch with my buddies back home. There are guys busting their tails to earn in a year what I can earn in a short time. But there's pressure. I had about \$36,000 in the first two months of last season,



and all I could think about was, keep it going. Keep your card. The competition out here is unbelievable, but what a rush when you do well. There's nothing like it. Nothing. I want to be good."

Dan Forsman, a complete professional in every sense, might advise that the best way to reach peace of mind in regulation is to be oneself.

"To the victors go the spoils," he said.

"We all want to win. But I also want to be a gentleman, not something contrived. I don't have the charisma of some of the stars on TOUR. It can be a fast track. But Jack Nicklaus said it all. Don't play for the money of it. Play for the love of it." ▲

Dan Forsman

SAM GREENWOOD: PGA TOUR

TPC Golf Schools: The Winning Edge

By Larry Dorman

Photography by Pete Fontaine / PGA TOUR

Jay Lumpkin is about to go through a remarkable transformation. He is standing in his office at PGA TOUR headquarters in Ponte Vedra, FL, assuming the position of a high-handicap golfer. You've seen the pose — knees locked straight, back hunched over, hands up and out — too far from the body, tensely choking the grip until the forearm veins pop out like purple ribbons.

Then, like one of those scenes from *Terminator II*, Lumpkin "morphs." The entire pose converts from the one on the mats at a seedy driving range to one on the practice tee at a PGA TOUR event.

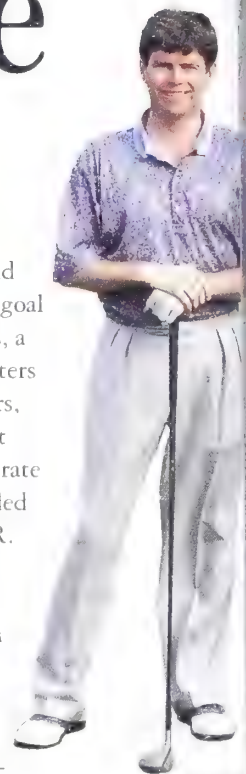
Training the body and mind to play golf is the goal of the TPC Golf Schools, a network of learning centers for PGA TOUR Partners, members of Tournament Players Clubs and corporate clients set up and presided over by the PGA TOUR. Schools are conducted regularly at nine TPCs around the country, from Florida to Arizona to California.

Overseeing the organization and administration of the schools is Lumpkin, the director of instruction. The approach he has come up with is what you might expect from an organization of the best golfers in the world. It is direct, concise and as scientific as the grand old game ever gets. And, to hear the people who have attended the schools tell it, it works.

Playing golf well is that most tantalizing and yet elusive aim. Conflicting programs and theories abound. Like demanding children, they tug at your pantlegs and shout to be heard. But a golf game must be raised like a child. With building blocks that lead to consistent and firm development.

This is part of what sets the TPC Golf Schools apart. The TOUR has at its disposal all the resources. Tapping into that, and bringing it to the potential student, is the key.

Lumpkin, 35, is the linchpin. He played the game well enough to win the 1987 PGA Club Professional Championship at PGA West, one of



Jay Lumpkin



A group of golfers
at the
TPC Golf School
at
Stadium Course
at PGA West

The posture relaxes, the club position is perfect, the angle of the spine is exact, the knee flex is 155 degrees. The change is so smooth and startling it looks like some Disney special effect.

"Obviously, we'd love to be able to change one of our students just like that," Lumpkin says, snapping his fingers. "It's not quite that simple. But it can be a lot simpler and more fun than people think."

the most demanding golf courses in America. And he has been recognized as one of the finest instructors in the game. Now he runs the program that endeavors to bring an understanding of the golf swing and the game of golf to PGA TOUR Partners, TPC members and clients in a highly competitive field.

"My goal, for everyone who comes through our program, is to get them through the maze of a myriad of information that's out there on the golf swing and find the swing that works best for them as quickly as possible," Lumpkin says. "Then we want to give them a proven recipe to take that swing they're learning and create a consistent motion with it." The TPC Golf Schools make it happen through a combination of factors that are unique to them.

First is the employment of state-of-the-art teaching aids, including multiple camera views of each student's golf game.

"It is really a question of perception and reality," Lumpkin says. "Most of the time what students feel or perceive they are doing and what they are actually doing are two different things." Students are taught how to use video analysis as a tool of positive reinforcement. Each student leaves the school with concepts of the four ways anyone learns.

- Verbal understanding and knowledge
- Visual imaging of correct motion
- Kinesthetic feel of correct motions or positions
- Experience of hitting good shots their new way



Jay Lumpkin directs Jim Holder as Mike Kaufmann looks on.

"The key is to develop a video library of the evolution of each student's technique on and off the course," Lumpkin says.

All this is overseen by the staff at the schools and conveyed to the students in simple terms aimed at giving each student something to take with them when the 3-1/2-day or 2-1/2-day sessions are done.

"My job as a teacher is to teach them how to teach themselves," Lumpkin says. "If they understand what their tendencies are, and how they compensate for them in their swing, if they understand how to use some tools, like video equipment, how to look at it and understand what to watch in their swing, they can create their own self-learning environment where they can get to the cause of their problem and fix it."

The students at the schools come from all sorts of backgrounds and ability levels. Handicaps range from near scratch to over 30. They share a common desire to improve, and they get the opportunity from the first morning.

"One thing that really impressed me about Jay was his preparation and attention to detail," says Sam Spiegel, 42, a Washington, DC, architect who attended the school at TPC at Avenel in Potomac, MD. "He knew something about each player's game before we even assembled. That made me realize he cared about what we were as golfers and in making the school a productive experience."

When he started at the school, Spiegel was a 10-handicapper, largely self-taught, a good athlete who had played golf in high school and college. He was struggling with his game because he couldn't improve, and was having some problems slicing the ball.

His is a case study in how players sometimes must sacrifice the comfortable if they are to improve. Since the school, his handicap hasn't improved, but his ballstriking and flight path have. He's confident the rest will come.

As someone who conceptualizes and designs buildings, Spiegel understands the importance of building from the foundation up. This is an integral part of the TPC Golf Schools. Giving



Jay Lumpkin begins with the basics

The TPC Golf Schools make it happen through a combination of factors that are unique to them.

Part of Lumpkin's success, and that of his teaching staff, comes from the willingness to work with what each student brings to the task.

each student a foundation from which to get better. There aren't any shortcuts to that, but it doesn't necessarily devolve that each individual's game is torn down and rebuilt. Part of Lumpkin's success, and that of his teaching staff, comes from the willingness to work with what each student brings to the task.

Take the case of Jim Holder of Winston-Salem, NC. Holder, 65, recently retired from the Hanes Co. and was looking to improve his golf game. His son-in-law gave him a Christmas present that will last: a 3-1/2-day TPC Golf School at the TPC at Sawgrass in Ponte Vedra, FL.

"I've been playing golf for 40 years," Holder says, "so it's going to be difficult for somebody to take all the bad habits and everything I've learned and make me unlearn it in three days. What impressed me was the way they understood things about what I was doing and helped me make changes that I could understand."

While the changes were being implemented – adjustments to his grip and setup – Holder was adjusting his own attitude. Like most casual golfers, he had never considered working on specific parts of his game to improve. Now he realized the importance of it.

"If you want to do something better, you'll spend time working on it," he says. "And a lot of the things I learned, I'm able to work on them even when I'm not at the golf course."

Personalized instruction at the schools begins immediately. Each student learns about the full swing and the short game throughout the course, and there have been some huge differences documented between students' first awkward passes and their last. The instruction includes sessions on on-course strategy and special drills and exercises that can be accomplished either at home, a practice range or golf course.

"The instructor I worked with, you could tell he was interested in what I thought," says John Goolsby, 51, a real estate developer from Las Vegas who went through the school last year at TPC at Summerlin in Las Vegas. "That made the atmosphere more informal, and made me want to exchange ideas."

"I picked things up I could use on the golf course even at the cocktail parties."

That the highly-focused atmosphere would extend to social events is no accident. It's part of the concept designed to clear students' minds and allow them to change their approach to learning about their own golf swing.

Research into the swing has shown that the golf course is not necessarily the best place to learn the game. Working without a club and without a ball can give a student understanding about why certain motions work.

"I think there's just a lot of confusion out there," Lumpkin says. "They're hearing things and reading different magazines and watching videos and listening to their teacher at home. We want to impart information to them that is based on sound scientific principles of motion in sports, not something that was dreamed up by Jay Lumpkin."

"We see things and learn our lessons from TOUR players. We watch them constantly to try to see what they do and why they do it and how did they get to be where they are. One of the things we hear from all our students is that they want to become more consistent. We want to give them a simple plan and give it to them quickly so they can begin to enjoy the game instead of working on their fundamentals for 20 years."

Jay is the son of Jack Lumpkin, the distinguished instructor whose





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students included millions of Golf Digest readers and many PGA TOUR pros. Jay competed on the PGA TOUR, played on the PGA cup team at the Belfry in 1988 and has served as the personal instructor for a number of PGA TOUR players since opting for full-time teaching.

Since coming to the PGA TOUR in November 1991, Lumpkin has helped with conceptualization of a full practice pitching and putting area adjacent to the fifth hole at the TPC at Sawgrass. For simulating actual on-course situations, there might be no better practice area anywhere in the U.S., and the PGA TOUR players have noticed.

"That practice area is awesome," TOUR player Rocco Mediate says. "I am going to become the best chipper and putter on TOUR because I'm going to be working there so much."

"You have to create a realistic, battlefield environment on the practice tee," Lumpkin says. "So many people talk about hitting it great on the practice tee and becoming a different golfer on the first tee. We have to create a system where they can deal with the different levels of pressure they will encounter when they get to the golf course."

The better the technique, the better a person deals with pressure. The more a person can be put into an environment where they can prepare for the pressure, the better they'll deal with it when they are there. Awareness and understanding are the keys, and getting people to work on the parts of their swing at home so they become technically efficient when they swing the club is one of the primary goals of the schools.

Once a student has completed the school, that's really just the beginning of the road to become a better player. The final and biggest goal of the TPC Golf Schools is to give its students something concrete to take with them. In addition to the videotapes made during the



Cody Barden, Dan Mullen, Jim Holder and Shaun McConnon review putting skills.

sessions, and the notes each student takes on demonstrations and exhibitions, TPC Golf Schools provide one last personal touch.

Lumpkin and his staff are available to students for telephone consultations. Once a player has been through the schools and learned which things must be corrected and how, the school also has a record of the player. Lumpkin frequently consults with his former students by phone and often is able to help them by recognizing their problems by analyzing the symptoms in the

descriptions of the flight of their golf ball.

Players don't have to be experts to help themselves once they've been through the school. Tom Podesta and his wife, Linda, both high-handicap players who went through the school together, have been seeing steady improvement in their games since attending last year's school at Avenel.

"It used to be that when I would hit bad shots before, I didn't know why," Tom says. "And now, if I'm doing something wrong and I don't notice it, very often Linda will notice. I got on to a bad stretch not long ago, and she noticed that my hip movement wasn't the same as it had been at the school."

"Sure enough, when I went back and looked at the tape, she was right. I was able to correct the flaw and get back to hitting the ball better."

From Lumpkin's point of view, that's what it's all about. Tom and Linda Podesta might never win the club championship at Avenel, but they're playing better golf and enjoying the game more. Their games have been transformed, morphed, if you will, from what they were. And the process is ongoing.

"No one ever perfects the golf swing," Lumpkin says. "But when you get the swing that is right for you, and learn how to consistently repeat it, then you're a whole lot closer to it." ▲

Research into the swing has shown that the golf course is not necessarily the best place to learn the game.

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Walking on

By Mark Soltan

Photography by Sam Greenwood/PGA TOUR

Acting on its own advice — Just Do It — NIKE Inc. ventured into a five-year, multi-million dollar deal with the PGA TOUR last August to sponsor a fledgling circuit for promising professionals.

Formerly called the Ben Hogan Tour, the new NIKE TOUR calls for 30 yearly tournaments in cities without PGA TOUR events, and features purses from \$150,000 to \$275,000.

"They've been trying to make inroads in golf for the last six or seven years," said popular PGA TOUR pro and NIKE client Peter Jacobsen, who helped mastermind the deal. "It's a perfect fit."

Based in Beaverton, OR, NIKE is the world's largest and most successful sports and fitness company, with earnings of \$3.4 billion in 1992. Little of that income came from golf, although NIKE got its feet wet in 1984 by introducing spikeless golf shoes. Jacobsen, two-time U.S. Open champion Curtis Strange and European star Seve Ballesteros helped the company take its first baby steps. Now, more than 40 PGA TOUR regulars wear the shoes.



NIKE dabbled in the Northwest golf market by helping sponsor the Fred Meyer Challenge and the Cellular-One Ping Golf Championship, but hardly got

mud on its soles. Things changed last

March when Mark Bisbing, marketing manager for NIKE's golf division, raised the idea of taking over the Hogan Tour. Using Jacobsen as a sounding board, Bisbing pushed the idea with company management, and to his surprise, they listened.

"Bisbing saw something in it that he wanted to do," said Gary Stevenson, the PGA TOUR's executive vice president of marketing and promotions, "and NIKE gave him time to pursue it. It's a fascinating company."

Keeping with company philosophy, the NIKE TOUR is a stepping stone for professionals, many fresh from college, trying to make names for themselves. NIKE is already involved in about 25 sports, ranging from volleyball to track and field, and is linked with athletic programs at about 300 U.S. universities.

"These players are putting it on the line every day to get to the next level," Bisbing said. "That's kind of



Peter Jacobsen

Keeping with company philosophy, the NIKE TOUR is a stepping stone for professionals, many fresh from college, trying to make names for themselves.



Taylor Smith (top) with Harry Karsh, NIKE vice president (bottom)

hat we're all about. It's important to align ourselves with true sport, and that's what this is."

The top ten money winners from the 1993 NIKE TOUR will earn playing cards for the 1994 PGA TOUR, which will ensure keen competition throughout the year.

How the deal came to be is even more intriguing. Jacobsen, a member of the TOUR's tournament policy board, phoned Bisbing in March of 1992 after a meeting at the Doral-tyder Open in Miami, FL. When the subject of finding a replacement for the Ben Hogan Co. came up, Jacobsen flashed on NIKE.

"I knew NIKE was No. 1 in athletic footwear," he said. "They've been trying to make roads in golf for several years. I thought, What a great way to own a league and get into pro shops."

So Jacobsen phoned Bisbing and got the proverbial ball rolling. Once Bisbing convinced upper management about the benefits of the association, the process moved quickly.

"The fact is, our best growth in product development is our relationship with the athletes themselves," said Richard K. Donahue, president and COO of NIKE. "We don't have the public identification we should."

Originally, the TOUR selected 18 candidates to replace Hogan. According to Stevenson, NIKE was the favorite from the start.

"They were our No. 1 choice," he said. "We were fortunate. Peter was critical. He's got tremendous insights. Without him, we wouldn't have gotten the deal done."

When NIKE and the TOUR finally met, it wasn't your average negotiation. But then, NIKE isn't your average company (more on that later). Money was not discussed.

"We didn't put a pricetag on it," said Stevenson. "What we said was does it make sense?"

"This was not a normal sponsorship. It was really a partnership. They were more concerned with how it would work. They asked very few questions about financial responsibilities."

That's because money wasn't the big issue. The question was whether NIKE could effectively use the fledgling golf tour and its promising players to promote new products, sell merchandise and increase credibility.

"We were accepted in the golf business but NOT accepted," said Bisbing. "This had so many positives. It legitimizes our involvement."

Bisbing was surprised how fast the deal was consummated.

"It was pretty quick, even by NIKE standards," he said. "we usually procrastinate before we pull the trigger."



Taylor Smith (left) with Mark Mitchell (right)

A NIKE merchandising truck will travel to each tournament site and shoes, shirts, pants, hats, socks, visors, gloves and duffle bags will be sold. The new partnership with golf will enable the company to reach towns, courses and buyers not previously accessible.

The top ten money

winners from the

1993 NIKE TOUR

will earn playing

cards for the 1994

PGA TOUR.

"We're talking about going on site and competing with existing sales," Bisbing said. "Everybody benefits. Ultimately, we need to have a 51-week relationship."

NIKE hasn't plunged into the golf equipment business — balls and clubs — yet. In a sense, it is still cutting its teeth.

"We're a 20-year-old company," said Bisbing. "We market well, but we're only an eight-year-old golf company. We're still learning. We still have a long way to go with the PGA of America and the club professionals."



PGA TOUR Commissioner
Deane Beman with
Andy Mooney, NIKE
senior vice president

Maybe so, but NIKE has proven to be a fast learner. Much of its success can be traced to its roots, i.e., the "campus" as it's called in Beaverton. This is no ordinary workplace, where employees sign in, wear three-piece suits and fight for preferred parking places.

Approximately 2,800 people work in seven buildings, scattered over 74 landscaped acres. Each facility is named after a prominent NIKE athlete — Michael Jordan, Nolan Ryan, Dan Fouts, John McEnroe, Joan Benoit, Bo Jackson, Steve Prefontaine — and busts of all clients dot the hallways. Open seven days a week, from 6 a.m. to 10 p.m., the "campus" has an Olympic soccer field, aerobics center, basketball court, swimming pool, tennis courts, running trails and a Boston Deli. Virtually every employee works out daily at one of the facilities, and each receives merchandise discounts from an on-site store.

"It's the most unique corporate setting I've ever seen in my life," said Jacobsen, who lives in

nearby Portland. "I love to hang out there. The big joke is if NIKE ever went under, they could sell it to a junior college."

Workers thrive in the environment.

"This is not a time-clock operation," Donahue said. "Exercise is part of their well-being plan. We have all kinds of leagues and races. There is a lot of activity."

Also a lot of profit. NIKE boasts 10,000 employees in about 100 countries.

"Our people work very hard," said Donahue. "They're under enormous time pressure. We turn our product line about twice a year."

"Our goal is to be at \$6 billion by 1996. That's a realistic goal. Part of that will come from expansion, golf being part of it. We are a global company. The universality of sports is our trademark."

Golf is simply a new pet project. Both NIKE and the TOUR envision a long-term relationship.

"Golf will be a flagcarrier for us," Donahue said. "It's designed to build a long-term relationship with the PGA TOUR. The longer the better, really."

Phillip Knight, chairman and CEO of NIKE, agreed. "It reflects our commitment to the sport. We think it offers a great opportunity. Our business performance is better when we're emotionally involved."

After studying the Hogan Tour, which debuted in 1990, Bisbing immediately began concocting ways to improve it. He's confident NIKE can take it to the next level.

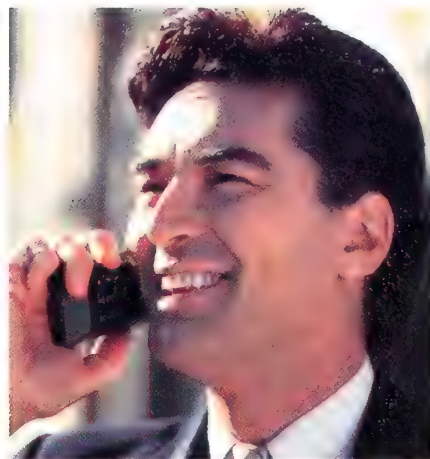
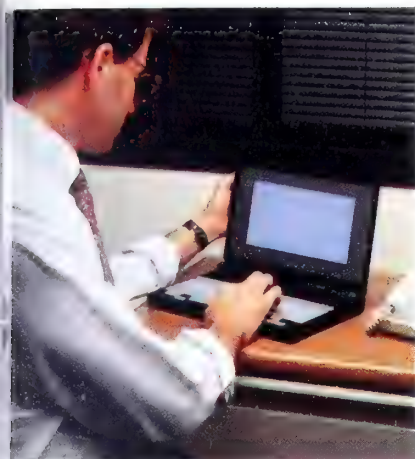
"We'd like to utilize our athletes and coaches in pro-ams," he said. "We'd like to get them involved to show the versatility of a tournament. We can bring a lot to the table and do a lot more than Hogan was able to do."

This is one of the key reasons the PGA TOUR was attracted to NIKE.

"It's kind of their show," said Stevenson. "We're here as facilitators. Over time, this will be one of the most meaningful relationships the PGA TOUR has ever had."

Bisbing is counting on it.

"It's the perfect match," he said. "We're the best company to step forward to do this. You can't help but associate NIKE with golf. When you think about it, we'll become part of golf history." ▲



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PRIME TIME

By Marino Parascenzo

Scholars who have studied old paintings, royal edicts, minutes of parish meetings, and even a stained glass window or two, have pretty well agreed that golf was created by the Scots. Or maybe the French or the Dutch. Possibly much earlier by the Romans. Then again, maybe the Chinese. Or maybe somebody else.

Suddenly, a game that had had all the zip of croquet now had tension, electricity, flair, magnetism. Add Deane Beman, as commissioner of the PGA TOUR in the mid-1970s, and you had a complex sports empire that spans everything from money-making logos attached to anything that walked, talked, rolled, or even sat still, to corporations putting up million-dollar

purses for the privilege of putting their names on a tournament.

Now comes the TOUR in another expansive move, and whether it launches itself into some new and revolutionary orbit remains to be seen. But one thing is certain. This new move will take TOUR golf to places it never dreamed of.

This is the TOUR's enhanced international television / marketing program — custom-tailored golf on a global scale.

The TOUR has been carried on TV overseas for some time. But if its new emphasis approaches expectations, the TOUR will have spread farther than anyone might have dreamed.

"I would presume the thing will be more or less wall-to-wall," said Peter Smith, senior international vice president for Trans World International (TWI), which is responsible for distribution and placement, terms and technical support, in the first year of a three-year contract with the TOUR. Through its agreement with the TOUR, TWI has the international rights (except Japan) to all tournaments telecast by ABC, CBS and NBC.

And what does this all mean to the title sponsor, who puts his name on the tournament



Davis Love III faces the cameras

But modern golf, as we know it now, was born at that flashpoint when the young and hungry eye of television ventured into the game and fell on that slab-shouldered blacksmith type from Latrobe, PA, Arnold Palmer. It was as though a giant telescope had swept the sky and caught a blindingly brilliant unknown comet on the rise. They can argue about when it happened. It may have been as early as 1958, when Palmer won his first Masters. Certainly no later than 1960, when Palmer soared from nowhere to win the U.S. Open.

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and foots most of the bills? It means more bang for the sponsor buck. No matter where the viewers are — sipping tea in India, listening to temple bells in Thailand, quaffing a pint in London, or tossing one on the barbie in Melbourne — when that American tournament lights up the tube, the whole world will see the best players in the world in tournament competition on a year-long basis, all bearing the name of the sponsor. This is what business calls “exposure.” And at no extra cost. It’s golden.

True, there has always been this kind of exposure in golf. That’s the point of being the title sponsor.

“We have 48 offices around the globe,” TWI’s Smith said. “Literally — we sit down with all the TV stations in the world.”

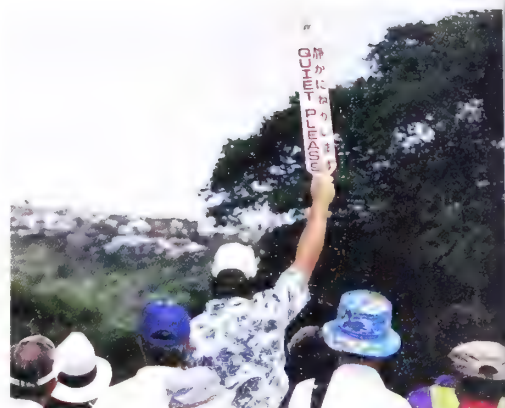
TWI has been putting golf’s most prestigious events on TV sets all over the world since the 1960s. TWI also has been handling European Tour television around the world.

The worlds of television and golf have become considerably more complicated since the first events began appearing on the tube after World War II.

“It used to be that you just put your name on sports, and good things happened,” said John Evenson, the PGA TOUR’s vice president for broadcasting. “Now, you have to be more specific. We already have a world presence. Our players play all over the world,

and this represents marketability. With TWI, we’ll get a more thorough distribution. Now we can say to Coca-Cola, for example, that we’re on in England at this particular time and be able to measure the value provided. Also, through TWI, a great portion of the world will see TOUR golf live or on a short delay. And we can show that the telecasts and title sponsor’s name were carried in which countries and at what times.

“It’s an enormously complex system. Most places don’t have two hours a day to show golf. In Germany, they may have only 20 minutes. Or in Italy, 60 minutes, or 30 to 45 minutes in Spain. Whatever — we can now place our product and benefit our tournaments, players and sponsors.”



That’s where TWI’s technical people come in. There are, of course, untold technical marvels involved. Jim Bukata, TWI’s vice president for production, summed them up:

TWI tapes the tournament telecast at its New York facilities, duplicates the tapes, and then converts them to the transmission formats of foreign TV.

“Then we ship the tape by plane to the receiving country,” Bukata said. “It’s actually much cheaper than sending it by satellite. Getting on the satellite can cost \$1,500 to \$2,000 an hour. But we hope eventually to convince enough people that at certain times, we could transmit by international satellite. We did this very effectively with NFL highlights — record the games on Sunday, convert them, then at, say, 2 a.m. Monday, feed by satellite.”

“The way the popularity of golf is becoming so strong — anytime we can get name recognition, it shows we are definitely backers of golf,” says Jerry Habeck, vice president for advertising with retail giant Kmart Corp., sponsor of the Kmart Greater Greensboro Open.

Kmart is edging into the international market. It has stores in Canada, plans to open some in Mexico, and also has bought a chain in what was Czechoslovakia. They’re the “Maj” stores now, but they’ll be Kmart before long.

Ryder System, Inc., sponsor of the Doral-Ryder Open, should get immediate benefits.

Said M. Anthony Burns, chairman, president, and CEO: “...sponsorship of a PGA TOUR event like the Doral-Ryder Open offers a unique opportunity to communicate with some of our best customers and prospects, and to enhance Ryder’s reputation as the world’s preeminent transportation services company.



SONO GOLFING GOLFERS

"We are...expanding internationally, so this new arrangement will add even greater value to our TOUR affiliation."

The value of the new program to Tokyo-based electronics and communications titan NEC Corp. is self-evident: NEC operates in 149 countries.

"One of the growing marketplaces is South America — and Australia and New Zealand, obviously," said Dr. Gordon Ray, executive vice president of NEC America, Inc., sponsor of the NEC World Series of Golf. "So it certainly is an advantage to have the TOUR in this new program. I do think name recognition is great, and the ability to have customers participate in an event and then see it later would be most beneficial."

The time seems ripe for an aggressive TV program. Golf, if not outright booming, is on the rise around the world. Accordingly, Evenson said, the TOUR's program has four specific overseas targets — Europe and Great Britain, the Far East, the Caribbean and Latin America and Japan. In other words, practically all of the golfing world.

Japan is not a part of the new TOUR-TWI package, but is very much in the picture. Mike Evenson, the TOUR's director of international affairs, said the TOUR has two separate four-year contracts with Japanese television, running from 1992 through 1995, with the potential of reaching some 50 million homes in that golf-obsessed nation. He outlines them:

The bigger of the two is with Media International Corp. (MICO), and it's super-TV by American standards. MICO will carry 55 TOUR events a year over Japan's public broadcasting network, NHK. Of the 55, featuring both the PGA TOUR and the Senior TOUR, 35 of these will be live.

The second is with a private network, Nippon Television (NTV), which has the rights to five events that are not in the NHK package — the Nissan Los Angeles Open, United Airlines Hawaiian Open, Memorial Tournament, FORD SENIOR PLAYERS Championship, and NEC World Series of Golf.

And for a piece de resistance, NHK is producing a half-hour documentary on the island 17th hole at the Tournament Players Club at Sawgrass, site of the TOUR PLAYERS Championship. This project was designed to showcase one of the newest TV technologies, high definition television (HDTV).

Meanwhile, outside of Japan there is a new market area available, with staggering possibilities.

Star TV, the satellite of Asia Satellite Telecommunications Co. Ltd., was put up in April 1990. Its two beams, reach 2.7 billion people in some 38 countries, stretching from Japan in the east to Egypt in the west, and from Russian Siberia in the north to Indonesia in the south. The 10 primary markets/countries include — Hong Kong, the Philippines, South Korea, Taiwan, India, Indonesia, Malaysia, Pakistan, Singapore and Thailand.

"Take Thailand," Evenson said. "That's one of the really fast-growing areas of golf. A number of TOUR players are designing golf courses there and developing other business interests."

Golf is hardly new to Thailand, but it is stirring. The European Tour launched its 1992 season there with the Johnny Walker Asian Classic. The European Tour also plays in the Persian Gulf, with the Dubai Desert Classic.

The European Tour, also plays in Europe, which raises an interesting question. TWI already feeds European Tour TV throughout Europe as well. Is this a conflict of interest?

"Our answer," TWI's Smith said, "is that there's room for both TOURS. And, in fact, since TWI is involved everywhere, we have a better chance of making this work."

"The TOUR has given its blessing, and Ken Schofield (executive director of the European Tour) says it's not an intrusion if you're putting the TV into places where neither TOUR has been before. Truth is, we're in hog heaven when the top European stars play in a U.S. event."

Evenson summed up the rationale for the TOUR's new global TV program — and its prospects for success — in one simple statement.

"When you look at who's playing golf these days," he said, "you're not looking only at the United States, England and Scotland anymore." The interest in golf, our players and our events and sponsors is worldwide. The global nature of the game obviously generates great interest as well as exposure and business opportunities." ▲



A cameraman brings the viewer into action at the MCI Heritage

PGA BellSouth Classic,
CBS May 8-9

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IN GOOD COMPANY

By Helen Ross

Photography by Sam Greenwood/PGA TOUR

You've staked your spot out carefully, right beside the 14th green.

You settle into your folding chair, take a sip of diet Coke and peer down the fairway into the bright sun toward the tee.

There you see one of the PGA TOUR's hottest young players, Phil Mickelson, who pulls back his 9-iron and sends the ball barrelling through the air. It settles no more than three feet from the pin, and you join the crowd in lusty cheers.

As Mickelson and the rest of his group approach the green, you notice he is already 10-under-par. But that handheld scoring standard tells only part of the story.

You can tell from your pairing sheet that Mickelson's group started well before the leaders. But he's having an extremely hot round, and you wonder if he's threatening the lead.

Enter the Coca-Cola Scoreboards and the IBM Scoring System, the state-of-the-art electronic data system that can tell you anything happening anywhere on any golf course at PGA TOUR sites they appear at.

Golf may be the most difficult sport to follow as a spectator. After all, the game is played over about 100 acres, rather than 100 yards of a football field or the 94 feet of a basketball court.

So you have two basic options: follow your favorite golfer for a few holes – even the whole 18 – or pick a spot and camp out and let the players come to you.

Either option has its limitations. But the unique partnership between the PGA TOUR, Coca-Cola and IBM helps bring the entire tournament into focus.

The Coca-Cola Scoreboards are positioned all over the course, ready to display information accessed from the IBM computers. Everything from statistical information – putts, sand saves and the like – to weather warnings and scoring totals can and is displayed throughout the day.

The IBM computers are housed in a large truck that is moved from golf course to golf course each week. This central system receives

*In addition to
the scoreboards,
Coca-Cola sponsors
youth clinics con-
ducted by various
TOUR players
during the week of
the tournament.*



the scores from wireless laptops which are located at every green and operated by the back-office of the PGA TOUR, the volunteers.

The main base of computers in the truck can serve the press tent, skyboxes, locker room, television towers and hospitality tents – as well as the Coca-Cola Scoreboards. Terminals can even be set up at local hotels, and area cable systems can tap into the computers for scores to show on their local access channels.

"Ours is kind of one-stop shopping," said Tom Burke, manager of Sports Marketing for the IBM Corporation. "Everyone throughout the system can get it."

IBM, in the second year of a three-year partnership, was attracted to the PGA TOUR for several reasons – not the least of which was

the continuing popularity of the sport in the business community. The company already has sponsorships in 12 different areas, including Major League Baseball and the NBA.

"And we have built them all as we have with the PGA TOUR," Burke said. "We start with our technology – rather than a more typical sponsorship where we just write a check and we get to use a logo.

"This is an opportunity to showcase our technology to two different audiences. We bring as guests approximately 15,000 customers to PGA TOUR events. Then you have the fact that all the others attending are potential customers.

"You also have the television audiences, not just those on site. With a media buy, you get

Chip Beck plays the crowd at a Coke clinic.





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air time. And all of that says to people who are interested in golf that IBM is interested in it, too."

An added benefit, Burke said, is the chance to enhance the tournament for all those attending. And the transient nature of the PGA TOUR showcases the versatility of the computer system. "The PGA TOUR staff is adept at installing computers from site to site," Burke said. "And that's a good demonstration for us, too." Like IBM, Coca-Cola was attracted to the PGA TOUR because of its popularity with spectators. But the soft drink company also is interested in golf for other reasons.

"Our strategy was really implemented because of the tremendous growth of golf — not only with viewers, but more so from the participatory aspect," said Jeff Dunn, assistant vice president of Prestige Accounts for Coca-Cola USA. "We felt good about getting involved, especially with diet Coke."

"People playing golf are getting younger, and also more females are getting involved with the game. Over time, we feel like it will be an even better fit."

As a result, Coca-Cola's involvement with the PGA TOUR is long term — a 10-year commitment. In addition to the scoreboards, Coca-Cola sponsors youth clinics conducted by various TOUR players during the week of the tournament.

"We wanted to make (our agreement) long term because the real benefits of golf are in terms of how broad the sport is and how it is growing," Dunn said. "The only thing that limits golf is public access — as fast as they build a golf course, they fill it up."

Coca-Cola already has an extensive sports marketing system. Every NFL stadium, all but one Major League Baseball park, and all but three NBA arenas pour Coke — for example. Coke is listed as the official soft drink of the PGA TOUR.

"We borrow from the interest in the TOUR and the fun of golf," Dunn said. "We get some television exposure, but it's really to involve ourselves with the consumer. It helps to build an image for the product."

"And the scoreboards do add value to the consumer experience. When people go to a golf tournament, it helps them keep up with what's going on."

A new facet of the company's involvement is the "diet Coke Chip-On Challenge." This is a ski-ball type-game, housed in a trailer that involves chipping to three different levels. The trailer can be taken into the market early in the week, then housed at the tournament site once competition has begun.

The Challenge will be featured at 22 different PGA TOUR events this year. Fans can play the game for a \$3 donation, which goes to one of the charities supported by the tournament.

The 22 high scorers, one from each event, win a trip to THE TOUR Championship at The Olympic Club in San Francisco, October 28 to 31, courtesy of Hilton Hotels, Coca-Cola and Delta Air Lines. As an added bonus, those weekly winners will compete there for a new Buick Park Avenue Ultra. ▲



Chip Buck demonstrates the correct grip to young golfers attending the Coke clinic.

The Coca-Cola

Scoreboards are

positioned all over

the course, ready to

display information

accessed from the

IBM computers.



QUIETLY CLOSING IN ON ALZHEIMER'S

Recent discoveries point to a handful of promising strategies

In the 15 years since Alzheimer's disease became a national priority for government-funded research, there has been little good news for its 4 million American sufferers. Even the Mar. 18 announcement that an advisory group to the Food & Drug Administration recommended approval of the first drug to treat the illness was a minor victory at best. Tacrine, made by Warner-Lambert Co., slows the mental decline in only a small percentage of patients, causes side effects such as liver damage in others, and does nothing to halt the destruction of brain cells that leads to Alzheimer's. A truly effective treatment awaits discovery of what causes that damage.

Quietly, in labs around the world, scientists are starting to close in on the answer. Since 1978, the National Institute on Aging (NIA) has doled out \$800 million for Alzheimer's research. Drug companies have spent hundreds of millions more in pursuit of the \$6 billion potential market they see for a genuinely effective drug. This vast research effort is revealing how complicated the illness is—and at the same time turning up discoveries that narrow the range of explanations for Alzheimer's.

In the past year, scientists have implicated three genes in the disease. They have also uncovered several biochemical defects that could cause the telltale devastation in the brain. Based on these discoveries, companies such as Athena Neurosciences, Scios, Merck, and Eli Lilly are hot on the trail of drugs that could correct the defects and halt the deadly ailment. "This field is going to take off like a rocket. All the pieces are there," says Zaven F. Khachaturian, chief of Alzheimer's Disease Research at the NIA, though he cautions that it could be five years or so before the first such therapies are available.

It's likely that there will be more than one way to attack the disease. That's because it's becoming increasingly clear that there are several ways to get Alzheimer's: Inherit one of at least four bad genes, have too little of several key

brain chemicals, or at some point in life suffer damage to the tiny blood vessels that nourish the brain. "There are 20 million people worldwide who have Alzheimer's," says Dr. Dennis J. Selkoe, director of the Center for Neurologic Disease at Harvard's Brigham & Women's Hospital. "It makes sense that not all those cases would be caused by one gene defect." In fact, less than 10% of patients have a strong family history of the disease and get it while in their 40s or 50s. In the other 90% of cases, Alzheimer's strikes people with no known family history of the illness, usually after the age of 60.

Whether the disease is inherited or not, the brain of a deceased Alzheimer's victim shows the same pattern of damage. Areas involved in memory, emotion, and cognition are riddled with masses of proteins called plaques and tangles that literally gum up nerve cells. Now, researchers are trying to zero in on the common biochemical pathway that leads to the death of brain cells and find a way to intervene to stop the disease.

CAUSE OR EFFECT? Evidence is growing that the culprit is a sticky protein called beta amyloid that forms the plaques on the nerve endings of brain cells. Most researchers now agree that "the formation of amyloid is the final common pathway in Alzheimer's disease," says Dr. Richard J. Wurtman, director of the Clinical Research Center at Massachusetts Institute of Technology. But the scientists don't agree on whether beta amyloid is a cause of the disease or an effect. Some, such as Selkoe, believe too much beta amyloid in the brain triggers Alzheimer's. Others, including Dr. Allen D. Roses, professor of neurology at Duke University, think beta amyloid is a side effect of some other damage.

Beta amyloid is actually a peptide, or piece, of a larger protein called amyloid precursor protein (APP), found on the membrane of brain cells. In 1987, researchers found the gene that directs production of APP on chromosome 21, one of the 23 twisted pairs of DNA



Dying neurons (dark cells) surround amyloid plaque.



Brain damage begins in the hippocampus, the memory storage center.

UNRAVELING ALZHEIMER'S TANGLES

strands that hold the genetic instructions for life. Then, last December, Selkoe's group and another led by Dr. Steven G. Younkin at Case Western Reserve University found a defect in the APP gene that causes Alzheimer's in about 1% of all patients who inherit the disease. This defect causes the body to produce far too much amyloid protein.

That discovery gave a big boost to the amyloid-as-culprit theory. So did another piece of evidence. Selkoe's team, in conjunction with Athena Neurosciences Inc. in South San Francisco, and Younkin's group, working independently, found that lab-grown brain cells release amyloid protein from their membranes without being damaged first. That was

w to those who thought that it was possible for beta amyloid to be produced by healthy, intact cells. "The conclusion is that if it comes out normally—just from degenerating cells—then there's no problem with Alzheimer's disease; that too much is coming out," says Selkoe.

Cholesterol's role in heart disease is a good analogy for amyloid and Alzheimer's, says Dr. Ivan Lieberburg, vice president at Athena Neuroscience, which was founded by Selkoe. Those with high levels of beta amyloid may be at risk for Alzheimer's, just as those with high cholesterol levels are at risk for arteriosclerosis. The body may produce too

As the disease progresses, nerve cells in the language and motor centers of the cortex are destroyed.



In Alzheimer's victims, areas of the brain involved in memory, emotion, and cognition deteriorate. Researchers believe the culprit is a protein fragment called beta amyloid. Now they're trying to determine whether the substance is a cause or effect of the disease.

much cholesterol, or the liver may not remove enough of it, or cells on the artery wall may be hypersensitive to it's deposited there. "We think the same thing is happening in Alzheimer's disease," says Lieberburg.

That's why there's a major shift in strategies for creating drugs against Alzheimer's. Athena; Scios in Mountain View, Calif.; and Cephalon in West Chester, Pa., are each developing agents that will block the key enzyme that snips beta amyloid from APP—the same way Merck's top-selling Mevacor blocks a key step in cholesterol formation. Others are seeking drugs to remove beta amyloid

from the body or protect nerve cells from damage.

The amyloid theory has gained many converts. Some 19 companies, including Merck, Bristol-Myers Squibb, Pfizer, and Upjohn, have started amyloid research. That's a welcome change, says Selkoe, who estimates that in the past 15 years, billions of dollars have been spent on cholinergic drugs such as Tacrine. Even now, a half-dozen similar drugs are in or nearing clinical trials. They lessen some effects of Alzheimer's by raising levels of acetylcholine, a key brain chemical that's depleted when neurons die. But they can be toxic, and they can't fend off the inevitable progress of the disease.

Still, drug companies haven't given up on cholinergic drugs in part because the beta amyloid theory doesn't answer all questions about the cause of Alzheimer's. "Most of us believe that dementia is caused by cells dying, but it's still controversial that amyloid actually kills cells," says neurologist John H. Growdon of Massachusetts General Hospital in Boston.

New research is beginning to dispel some of that controversy. In January, Dr. Harvey B. Pollard at the National Institute of Diabetes & Digestive & Kidney Diseases found that beta amyloid fragments can form channels that let calcium rush into cells. Too much calcium is toxic. Mark P. Mattson, a researcher at the University of Kentucky College of Medicine, found that if amyloid is added to healthy cells, it raises their calcium levels, making them more vulnerable to damage. And scientists at Sun Health Research Institute in Sun City, Ariz., have evidence that beta amyloid may cause chronic inflammation of the brain that could lead to a loss of function.

The next key question: What causes the buildup of beta amyloid? It's clear in a few cases that a mutation in the APP gene on chromosome 21 is to blame. Then, last October, researcher Gerard D. Schellenberg of the University of Washington in Seattle discovered that a gene on chromosome 14 is involved in half of all remaining cases of familial Alzheimer's. He says there are hints that the gene, which hasn't been isolated yet, helps regulate how APP is broken down. But chromosomes 21 and 14 don't seem to have a role in other inherited cases or in those afflicted after age 60.

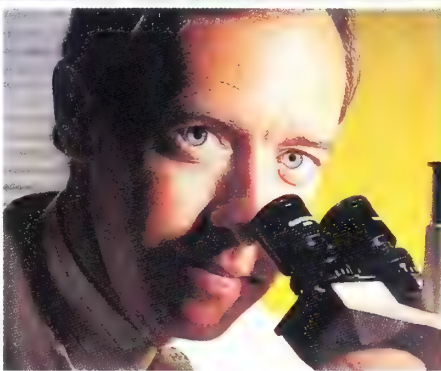
Duke's Roses has found a gene on chromosome 19 that may be key to late-onset Alzheimer's. It directs the body to make a particular version, APOE-4, of a protein that helps move cholesterol in and out of cells. It can also grab hold of beta amyloid—and is found in plaques and tangles in victims' brains. People who carry this gene have "a risk factor

for Alzheimer's," says Roses. He found the gene in 64% of those with the disease but in only 30% of the general population.

Roses believes APOE-4 causes formation of tangles—insoluble clumps of a protein called "tau" that collect in and damage nerve cells. "The amyloid plaque may be superfluous, a byproduct," he says. Selkoe counters that Roses' work fits the amyloid theory: "If something is wrong with APOE, it might not be able to bind with beta [amyloid], and it would be available to accumulate as plaques."

SHOTGUN. Another clue about what might cause late-onset Alzheimer's came last October. Researchers at MIT and Massachusetts General Hospital in Boston found that low levels of the brain chemical acetylcholine, a common symptom of the disease, can lead to the formation of beta amyloid in lab-grown brain cells. Wurtman, who founded Interneuron Pharmaceutical Inc., a neuroscience company in Lexington, Mass., says this research could lead to a new drug strategy. Drugs such as Tacrine boost acetylcholine levels all over the body. So at doses high enough to counteract the underlying deficiency in the brain, they would be toxic to the heart, liver, and other regions of the brain.

Wurtman's group has zeroed in on a receptor, or docking site, for acetylcholine that is found only on cells in the learning areas of the brain. He says



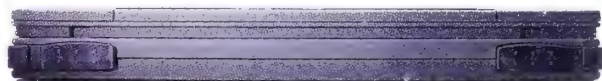
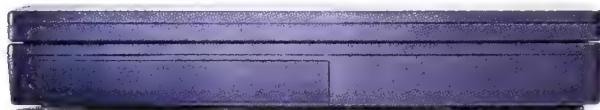
SELKOE: IS CHOLESTEROL A MODEL?

there are no drugs on the market that can target only this receptor but that his company is working on one. "My strong suspicion is that there will be one in the very near future," says Wurtman.

Such bullish predictions are becoming more common among Alzheimer's researchers. "Things will go a lot faster," says the NIA's Khachaturian. "You have commitment from the government, many, many drug companies, and the scientific community to move at a very, very rapid pace." The hope for Alzheimer's patients and their families is that one day soon—perhaps in five years—researchers can offer them a treatment with real promise.

By Naomi Freundlich in Boston

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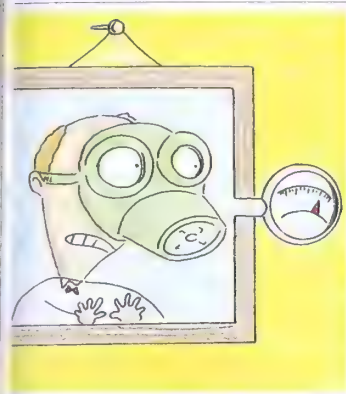


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Developments to Watch

ED BY EMILY T. SMITH

ATING RADON THROUGH THE LOOKING GLASS



Radon emerged as a health threat in the last five years as studies showed that exposure to high levels in the home can cause lung cancer. But many families move so often that it's difficult to determine their exposure over a lifetime.

Now, Battelle Memorial Institute scientists at the Energy Dept.'s Pacific Northwest Lab in Richland, Wash., have devised a clever way to do so. They tape a 2-inch-square piece of clear plastic polymer to the glass on an old mirror or framed picture. Such items as wedding photos are easily dated and normally carried from home to home. As radon seeps over the years, it emits alpha particles, which embed themselves in glass. The particles leave tracks in the polymer. By analyzing these tracks, scientists can estimate a person's average annual exposure to indoor radon over 20 years or more. Starting in May, the technique will be used in a three-year National Cancer Institute study that examines radon, smoking, and diet as co-factors in the risk of lung cancer.

EARLING, YOU LOOK STUNNING I YOUR RECYCLED COKE BOTTLE'

Being environmentally correct is fashionable these days in the rag trade. First, organically grown cotton made its way out in everything from sheets and towels to T-shirts. Now comes fabric made from recycled plastic. Wellman Inc., a plastics recycler and polyester maker, and Dyersburg Fabrics Inc., which produces fleece fabrics, have announced what they claim is the first commercial textile fabric made from used plastic beverage bottles. Dyersburg's Dyerport E. C. O. fleece fabric contains 80% of a fiber made by Wellman from such bottles. The fleece, say Dyersburg executives, matches the feel, strength, colorfastness, and shrinkage of other fleece fabrics made from virgin polyester. Dyersburg's entire production through September is reserved for its first customer, Patagonia, which will use it to make an outdoor jacket similar to a nylon windbreaker. Karen Miz, merchandise manager for Dyersburg, says the company expects the fabric to find a niche in outdoor clothing sold to environmentally conscious consumers.

CLOSER LOOK T TRASH IN SPACE

With increasing activity in space, large amounts of man-made materials created by accidents or the breakup of rockets exist at altitudes of 240 miles to 480 miles. This debris, broken into tiny pieces less than four inches in size, is too small to detect through existing techniques, such as radar, yet large enough to punch holes through satellites, spacecraft, or spacewalking astronauts.

Scientists at Los Alamos National Laboratory are develop-

ing a ground-based optical system that can detect the debris. The system combines a modest, six-inch telescope, state-of-the-art detector, and novel computer software to pick out the faint trace of reflected light left by the debris orbiting overhead. The system tracks the particles of light reflected by the debris, plotting their latitude and longitude. Together, the data can be used to identify the track made by a small piece of debris as it crosses the telescope's field of view. The researchers will use the system to determine how much of this clutter surrounds the earth and thereby estimate what sort of hazard it presents to earth-orbiting missions. They hope to field a demonstration system later this year.

HOW CORPORATE AMERICA WOULD GO ABOUT BEING GREEN

Increasingly, industry, government, and environmentalists, who have often clashed over environmental rules, seem to agree that regulations are too expensive and inefficient.

Now, in a report released on Apr. 20 entitled *What Price Clean Air?*, the Committee for Economic Development, an independent research and educational organization of some 250 business leaders, has agreed on the principles U.S. industry would like adopted. The group endorses cost-benefit analysis as the basis for establishing environmental standards. It also supports market-based mechanisms, such as taxes on polluting emissions, as preferable to command-and-control methods of regulation—such as those that mandate pollution-control technology and set emissions levels. The group also recommends including the social costs of pollution, such as the degradation of natural resources, in the costs and prices of goods and services.

"It's the first time a cross section of U.S. industry has agreed on those principles," says one executive. The report also proposes policies for dealing with global climate change, improving energy efficiency, and curtailing vehicle emissions.

A TAIWAN TERMINATOR TERRORIZES TERMITES

The dread Formosan supertermite is munching its way through the wooden structures of Florida and other Sunbelt states. But the ravenous creature may have met its match in another native Formosan—Nan-Yao Su, an entomologist at the Fort Lauderdale (Fla.) research center of the University of Florida Institute of Food & Agricultural Sciences. Su has developed a slow-acting poison that, when mixed into bait, inhibits the production of chitin, a substance that termites need to form shells. It also works on native varieties of subterranean termites, which are the biggest problem in areas not infested by the Formosan termite.

Su's work has been supported by DowElanco, a joint venture of Eli Lilly & Co. and Dow Chemical Co. DowElanco has exclusive rights to use the poison and is testing it in different soils and climates around the country. The company has asked the Environmental Protection Agency for approval of the substance and aims to bring it to market in 1995.



CHRYSLER'S NEON

IS THIS THE SMALL CAR DETROIT COULDN'T BUILD?

On the afternoon of July 31, 1990, in a test-track garage in Highland Park, Mich., Lee A. Iacocca huddled with a dozen Chrysler Corp. engineers to make a decision that would help determine the future of their company—and, quite possibly, of the U.S. auto industry. To husband cash at his troubled carmaker, Iacocca was considering a joint deal with Italy's Fiat to build a new subcompact, Chrysler's first since the Omni and Horizon twins in 1978. On this steamy day, the engineers had one last chance to persuade their strong-willed chairman to let them do it themselves.

The lights were

dimmed, and Robert P. Marcell, the 53-year-old head of Chrysler's small-car team, made the most of his opportunity. He began showing slides of his hometown, Iron River, a decaying mining community in Michigan's Upper Peninsula. Up flashed the now-shuttered Homer-Wauseca mine, where Marcell had

worked summers during college. Then the abandoned yard, where 1,000 railcars a day were once loaded with ore. At the hospital where, because of the flight of the young from Iron River, five people die for every one that is born. The town is crumbling, he said, his voice shaking, "because we couldn't compete."

Detroit, Marcell argued, was slowing heading toward the same fate, and abandoning small cars would speed its demise. But if Chrysler could become the first U.S. company in decades to make a profitable subcompact, it could help reverse the trend. It could prove that American carmakers, in toe-to-toe combat, can outmuscle the Japanese. Marcell uttered what became his team's rallying cry: "If we dare to be different, we could be the reason the U.S. auto industry survives. We could be the reason our kids and grandkids don't end up in fast food service." As he ended his pitch, he thought he saw a tear in Iacocca's eye.

Thus began one of the most remarkable development efforts in Detroit's history. Marcell and a core group of 10 compatriots at the No. 3 carmaker mobilized 600 engineers, 289 suppliers, and even blue-collar workers in the campaign to deliver the new model in a speedy

THE NEON FROM START TO FINISH

1990

APRIL Chrysler management O.K.'s preliminary investigation of a new subcompact.

APRIL Ford's 1991 Escort, jointly engineered with Mazda, hits showrooms. Development cost: \$2.0 billion.



JULY Then-Chairman Lee Iacocca visits the company's test-track garage to hear his engineers pitch the new model. Their emotional appeal persuades Iacocca to drop the idea of a small-car joint venture with Fiat.



SEPTEMBER New Nissan Sentra arrives with a price of \$8,000. It sets the standard for a quiet ride in a small car.

1991



JANUARY The Neon concept car, the inspiration for the production Neon, is greeted warmly at the Detroit auto show.

JANUARY After seven years and \$5 billion in development costs, deliveries of GM's Saturn begin.

APRIL Chrysler's top brass gives Neon a green light, approving \$1.3 billion budget.

SEPTEMBER Iacocca and Chrysler President Robert Nardelli prevail on the Neon team to redo the car's front end to a distinctive oval headlight. Despite the interruption, the project stays on schedule within budget.

OCTOBER Restyled Honda Civic hits showrooms with a base price of \$8,100, up



months, for a fraction of what any recent small car has cost. Starting with an characteristic willingness to borrow from competitors, they overcame the lebound Motown habits and self-doubt that for decades squelched U.S. auto innovation. Now, as the frenzied effort ebbs toward a close, it seems that the Neon, as the car is named, will meet most of Marcell's goals.

SURGE AND DEVELOPMENT. Despite such disruptions as a midcourse change to snazzier headlights, production should start in March, three months ahead of schedule. Thanks to unprecedented penny-pinching, Chrysler engineers think each car will cost \$500 less to build than any competing subcompact. When it hits showrooms on Jan. 1 with a price tag of about \$8,600, the Neon could thus beat the Japanese at their game of selling inexpensive, good small cars at a profit. By that measure, "this will be the most successful American small car ever," says James P. Womack, co-author of the seminal 1990 auto study, *The Machine That Changed the World*. If he's right, Neon will help finish a fast turnaround at Chrysler. Just 16 months ago, losses were alarming, its stock was down 10. But a redone Jeep Grand Cherokee plus its new LH midsize cars produced a record \$880 million first-quarter operating profit, before an accounting charge. Now, the stock is at 40.

By completing the triple play, the Neon would be the most dramatic proof yet of

the edge Chrysler gets from its improved development formula. The car should come in on budget at \$1.3 billion. By contrast, Ford Motor Co.'s newest Escort, developed with help from Mazda Motor Corp., took five years and \$2 billion to bring out. Ford's new European Mondeo compact, soon to replace the Tempo in the U.S., cost \$6 billion. General Motors Corp.'s hugely popular Saturn took seven years and \$5 billion. The rest of Detroit is getting the message. Ford is hustling to create its own versions of Chrysler's teams and reverse its greatest weakness—its glacially paced product development. And GM, at long last, seems poised to shake inefficiency so it, too, can finally compete.

There are reasons galore for taking this road. For a decade, analysts figure, the Big Three have priced small cars so low—to sell enough to average against their large cars in meeting the government's gas-mileage standards—that economy-car losses wiped out big-car profits. Detroit's earnings have come mostly from pickups and minivans, segments where foreign competition has been weak or hurt by tariffs. But these havens won't stay safe forever. Heavyweights such as Honda, Toyota, and Mercedes-Benz will crowd into them in a few years, driving margins down.

At the same time, environmental pressures will likely force more Americans to buy small cars. Already, California is considering a higher sales tax on gas hogs. And

new federal energy taxes could push gasoline up 75¢ a gallon by the end of the decade, predicts Christopher W. Cederger, an analyst at AutoPacific Group Inc. in Thousand Oaks, Calif. On top of that, the federal mileage standard is likely to rise from the current 27.5 miles per gallon, forcing carmakers to sell more gas-stingy cars. Companies that can't make money on those may end up on the junk heap.

Skill in making small cars may also be crucial for exploiting new opportunities. Subcompacts predominate in emerging markets such as Asia and Latin America, where auto sales are expected to zoom 50% in the next decade. Meanwhile, markets such as Western Europe and North America will stagnate. It will thus be crucial to apply the Neon's lessons to big cars, as

well—either to fatten profits or hold prices in check to build market share.

YEN AND YANG. Indeed, Detroit is getting the hang of all this just as the Japanese are stumbling. The latest versions of models such as Honda Motor Co.'s Civic and Toyota Motor Corp.'s Corolla have become so big and sumptuous that they're giving shoppers sticker shock. The stronger yen, up 21% vs. the dollar in just two years, has forced prices even higher: Japanese subcompacts, on average, cost 13% more than in 1991. As a result, the Japanese share of U.S. sales in that segment has fallen from 52% to 49%. "Customers are willing to pay less than we expected," says Takayasu Honda, Toyota's chief engineer on the Corolla.

It's way too early, of course, for Chrysler to crow. The yen's value can always change back in Japan's favor. For the Neon to turn a profit, moreover, 300,000 must be sold each year—a figure that Saturn is just approaching. Beyond

With a base price of \$8,600, the Neon could just beat the Japanese at their game of selling well-equipped small cars at a profit



1992

APRIL Some 90 UAW workers from Chrysler's Toledo plant come to build prototype and help revise the design of their factory, which will make the car.



DECEMBER Toyota's compact Corolla blossoms into a subcompact with a price to \$11,200, up 15%.

OCTOBER After comparing Neon prototypes with the Honda Civic and other competing models, Chrysler's parts suppliers suggest improvements.

1993

SEPTEMBER Neon to make first public appearance at Frankfurt auto show.

NOVEMBER Production to begin, three months ahead of original plan.

1994

JANUARY Neon officially goes on sale, starting at about \$8,600.



SUBPAR SUBCOMPACTS

▼ DODGE OMNI, 1978-1990

It and Plymouth Horizon got five safety recalls in first six months. *Consumer Reports* blasted its high-speed handling.



▲ AMC GREMLIN, 1970-1978

Launched by American Motors Corp., which Chrysler bought in 1987. Stalled intermittently during right turns.

▼ CHEVY VEGA, 1971-1978

Faulty rear brakes. Wheels tended to fall off. Aluminum engine burned oil after about 10,000 miles.



that, the 2,300-pound car will have some heavy baggage to haul. Chrysler has the worst quality record of the Big Three—not to mention the Japanese. "I'm not that worried," says Toyota's Honda. "Even if you have a good car, it's hard to get people to buy it immediately. You need a reputation for reliability." Still, the Neon has the best chance in years to

and money to design—yet small ones sold for far less. At Chrysler, top officers such as Iacocca and Chief Financial Officer Jerome B. York knew this all too well, and by 1990 they were sizing up potential partners. Even so, four months before the garage meeting, Marcell began planning the Neon with backing from President Robert A. Lutz and engineering chief François J. Castaing.

From the start, Marcell figured the Neon demanded an unusual approach for Chrysler. He and 12 engineers first assigned to the project latched on to a newly popular concept called concurrent engineering. This meant getting engineers, marketers, purchasing people, and finance types to work together from the start to avoid later

procedures more foolproof. And blue-collar workers got more responsibility than in any program except Saturn's.

While the Neon was still only a sketch, the team began sizing up the competition. The engineers drove models such as a Honda Civic and a Ford Escort, measuring in detail how they handled. They also tore them apart, weighing each component and figuring what it cost to make so they'd know what they had to beat. Then team members talked to consumers, such as subcompact owners in import-happy San Diego. They didn't want much: a small car that felt like a big one and was reliable, fun to drive, and safe. In expeditions to shopping malls, Marcell's deputy, engineer Alan C. Carlson, found that young families use small cars as utility vehicles, hauling kids and gear to work and play.

All the preparation armed Marcell for his test-track pitch. When the meeting broke at 6 p.m., Iacocca was noncommittal. But Marcell's speech had moved the cigar-chomping chairman. A few weeks later, the team began getting requests from top managers for more detail. "That was the turning point," says Joseph N. Caddell, Chrysler's general product manager for small cars.

TWICE SHY. Marcell knew the car risked missing its stringent targets unless component makers got on board early. After all, they would furnish 70% of the value of the car. So in October, 1990, the team invited 25 makers of key parts such as seats, tires, and suspension components to send engineers to Chrysler's Chelsea (Mich.) proving ground. There they drove the crude first prototype cobbled together on a Dodge Omni body. Team members laid out their tough cost challenge. At first, the suppliers were skeptical of the partnership Marcell envisioned, which called for sharing sensitive financial data and ideas in a mutual effort to slice costs. They had all been burned before by customers professing



Abandoning small cars, Marcell argued, would have a devastating effect on Detroit

disprove Henry Ford II's 1972 dictum: "Minicars, miniprofits."

At least in Detroit, that logic is still largely undisputed. Designing a first-rate, inexpensive small car "is probably the ultimate engineering challenge," says Kenneth K. Kohrs, Ford's vice-president for car product development in North America. Until the Neon, big and small cars took nearly the same time

delays from disagreements or misunderstandings. Teams designing the new Jeep and the LH cars were already trying such an approach. But the intensity peaked at Neon: If costs weren't rock-bottom, the project would die. The team borrowed Japanese techniques with names such as quality function deployment, a way to prioritize customer desires, and *poka-yoke*, making assembly



▼ FORD PINTO, 1971-1980

Front end impossible to keep aligned. Rough-riding. Heavy-steering. Risk of gas-tank fire if rear-ended.



▲ FORD ESCORT, 1981-1993

Good fuel economy, but underpowered. Best-selling American car for a while. Hasn't yet made money.

▲ CHEVY CHEVETTE, 1976-1986

Transmission, mounted in rear, ate up seating and cargo space. Underpowered. Weak brakes. GM lost about \$300 apiece.



otherly love. But Marcell's earnest-ss won them over.

Soon, suppliers were nearly living th Neon team members. Take the case Johnson Controls Inc., which Marcell ose to supply seats. Johnson met its st target. But it fell far short on safe-weight, and comfort. So on Jan. 2, 31, 10 Chrysler engineers arrived at a ss-and-brick Johnson building west of troit. After five 10½-hour days, they d 10 JCI counterparts, led by sales dictor Rudy Paluch Jr., agreed on ight, cost, and performance targets at haven't budged since. That's a stark ntrast to the typical U. S. new-car program, where countless small changes inte the price. "The dimes all of a sudn add up to dollars, and you've lost ur cost control," says Paluch.

In another break with convention, the eon team accepted higher component sts if it meant a less costly car overall. r instance, Johnson designed the rear ats for some Neon models so they ould fold down to expand trunk space. t Chrysler's manufacturing engineers anted all versions of the seat to install e same way, which meant making the ld-down seat more complex. That cost ore, but Chrysler will save up to \$1.1 illion in simplified final assembly.

ESCORT REDUX? As the Neon took shape, e magnitude of Chrysler's challenge as dramatized by its rivals' troubles. In pril, 1990, with much fanfare, Ford un-iled its all-new Escort. But sales umped because of lackluster styling d a rough-running engine. Ford soon rgan selling Escorts with popular op-ns for \$9,995—at a loss, analysts fig-e, of \$500 each. In fact, although more an 4 million Escorts have been sold nce their debut in 1981, "the car has st a lot of money," says a former Ford ecutive. To keep the original car sell-g, for instance, the company spent arly \$4 billion on cash rebates and her expenses during its 10-year life.

By the spring of 1991, the cost-con-ainment work of Marcell's 12 core peo-ple was easing Iacocca's fears of Escort redux. For one thing, production was to start in January, 1994. Such a quick turnaround alone would shave about 40% off Chrysler's usual engineering bill, which accounts for about one-fifth of development costs. So in April, 1991, the Chrysler board approved the Neon's budget. That would cover a new body and chassis, plus a brand-new 130-horse-power, 2-liter overhead-cam engine and five-speed manual transmission. It would also pay for retooling assembly plants in Belvidere, Ill., and Toluca, Mexico, and for building new engine and transmis-sion lines. It was an ambitious plan with a tight bankroll. "With the exception of having faith that we would find a way, we really didn't know how we were go-

ing to get there," Marcell concedes now.

One thing he did know was that the Neon wouldn't sell if it scrimped on fea-tures or performance. So the team fo-cused on cutting costs where customers wouldn't notice, or wouldn't care. For instance, small-car owners told research-ers power windows weren't important, so the team chose the crank variety. Market research also showed that buyers saw nothing special in the four-speed automatic transmission most competitors offer. So engineers adapt-ed an existing Chrysler three-speed, saving more

The Neon team knew that if costs weren't rock-bottom, Chrysler would pull the plug



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than \$300 million. The team also decided to sell identical cars at Chrysler and Dodge dealerships instead of offering two slightly different versions, as Ford did with its Escort and Tracer. That saved about \$10 million in engineering and tooling. Stylists did away with all but one exterior molding, chopping parts costs \$50 per car.

At the same time, the team spent money it knew would count. Small-car owners worry a lot about safety. So team members swallowed hard and made Neon the first subcompact with standard dual air bags. Marcell figured the bags would be a whopping 10% of the car's total parts bill. But supplier TRW Inc. lowered that substantially by designing a single, cheaper impact sensor to replace the usual three. In addition, Neon will have reinforced doors that will meet the tough 1997 federal side-impact standards three years early.

By September, 1991, the program was humming along when top management threw a wrench in the works. At a review session in Chrysler's styling studios, Lutz and Iacocca said they wanted a new front end. They preferred the distinctive oval headlights and more daring character of the Neon concept car making the auto-show circuit to the rectangular lights the team had chosen. The problem was, top brass had promised—for once—not to meddle. "I had some pretty upset people," concedes Marcell. "The reaction was, 'It's going to cost \$20 million in added investment!'"

CIVIC MINDED. Lutz, worried about morale, offered to explain the decision to the team. But Marcell cajoled his charges into evaluating the difficulty and the cost of a change. They quickly decided that the jauntier appearance was a plus. In the end, the redesign cost only about \$7 million. And the new headlights cost less, so the net effect was a wash. More important, the program didn't skip a beat. Team members scrambled, and the Neon prototypes built just four months later incorporated the new look.



Team morale got a lift that October when Honda began selling its all-new Civic. For two decades, Civics had set the standard for subcompact excellence. So Neon team members pored over the new version, and what they found was startling. On the plus side, the car was roomier, with more contemporary styling. And Honda had shaved about \$700 in costs with fewer, simpler parts. But the basic price was up 8%, to \$8,100. And behind the wheel, visibility was worse and handling was annoyingly sluggish, in part because the car weighed more. The team decided the old version was still its benchmark for driving fun.

By then, Marcell was focusing on readying Belvidere for high-quality output. As early as November, 1990, he had asked union members there to help engineers make the car easy to build and to streamline production methods. The result, in theory, will be fewer defects. "Engineers are great, but they've never built a car," says Bob Dunlavy, a United Auto Workers quality coordinator.

In January and February, 1992, Marcell enlisted the UAW full-time. Chrysler

based about 90 Belvidere workers to suburban Detroit to help assemble the first production prototypes and suggest how to do the job better. Among the many ideas they came up with: a height-adjustable assembly line, so assemblers

can fasten on components without tugging body contortions that lead to mistakes. Two workers, Ron Swain and Gary Smoot, suggested changes in Neon's door-installation equipment so window glass would fit perfectly. That was crucial, since there's no upper door frame to guide the glass, and the slightest gap can cause wind or water leaks. So far, workers have proposed more than 4,000 changes in the car and production process, and many have been implemented. "We're proud of what's going on," says Dunlavy.

In the spring of 1992, the Neon team

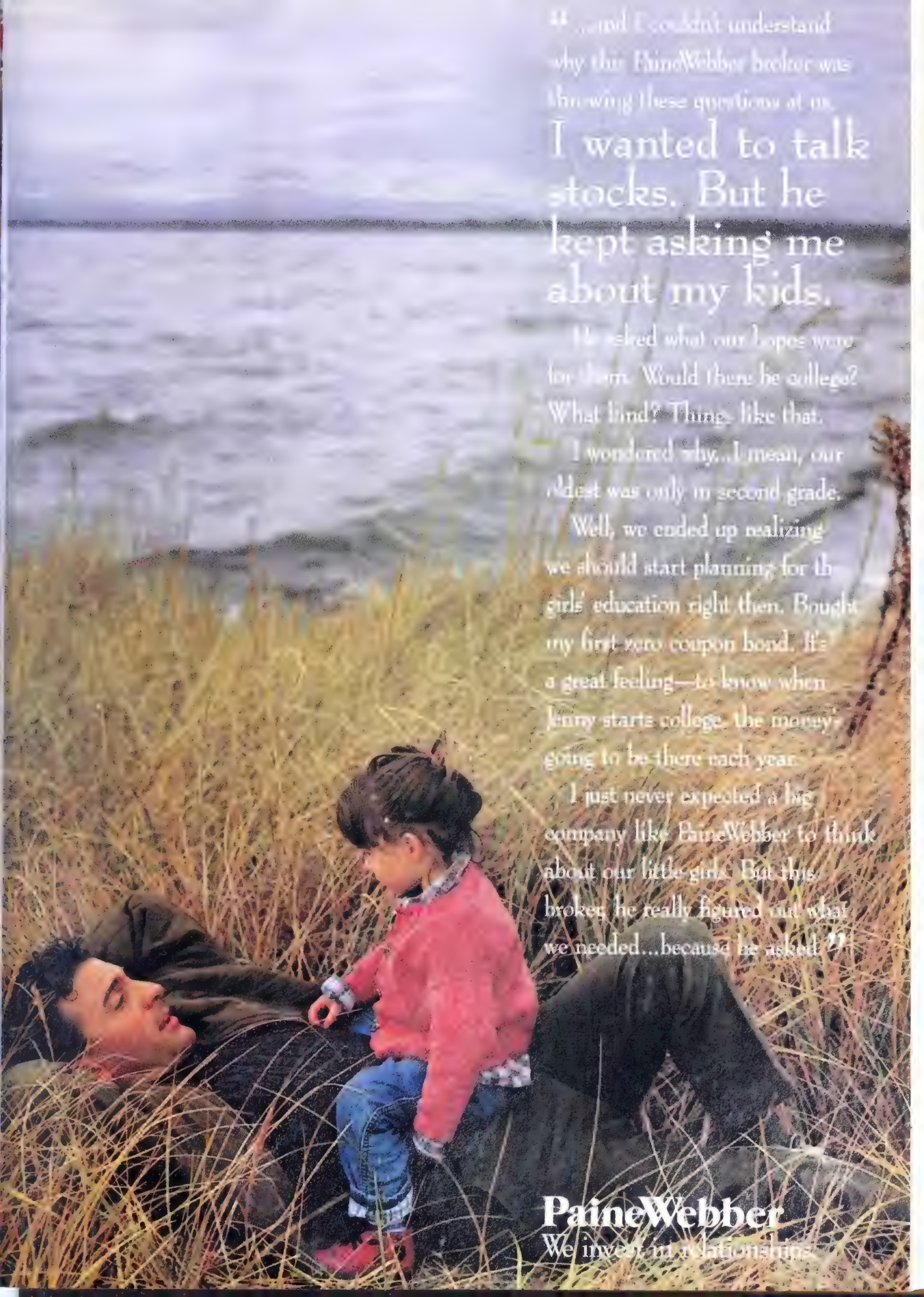
Chrysler asked for line workers' input—and got over 4,000 proposals

HOW THE NEON STACKS UP

	Price	Base engine/ Horsepower	Weight in pounds	Fuel economy/ mpg	Air bags	
					Driver	Passenger
DODGE/PLYMOUTH NEON	\$8,600-\$12,500	2-liter/130	2,300	30+ (est.)	standard	standard
HONDA CIVIC	\$8,950-\$16,080	1.5-liter/102	2,300	38	standard	optional
FORD ESCORT	\$8,335-\$11,923	1.9-liter/88	2,300	33	N/A	N/A
GM'S SATURN	\$9,395-\$13,570	1.9-liter/85	2,300	36	standard	N/A
NISSAN SENTRA	\$8,995-\$15,020	1.6-liter/110	2,400	35	optional	N/A
TOYOTA TERCEL	\$7,998-\$12,038	1.5-liter/82	2,000	29	standard	N/A

DATA: BUSINESS WEEK

N/A = Not available

A photograph of a man and a young girl sitting in a field of tall, dry grass. The man is lying down, looking up at the sky, while the girl sits on his lap, looking towards the camera. In the background, there is a calm body of water and a distant shoreline under a soft, overcast sky.

“...and I couldn’t understand why this PaineWebber broker was throwing these questions at us. I wanted to talk stocks. But he kept asking me about my kids.

He asked what our hopes were for them. Would there be college? What kind? Things like that.

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got a new target to aim for. After its lengthy gestation and a snail-like production launch, GM's plastic-bodied Saturn began to show big sales gains. Researcher J. D. Power & Associates Inc. tagged it as the highest-quality U.S. model and said its customer satisfaction trailed only Japan's luxury brands, Lexus and Infiniti. For the year, sales would hit 196,000, matching Toyota's Corolla and proving that a U.S.-designed

and U.S.-built small car could compete hubcap-to-hubcap.

There was just one hitch: Saturn Corp. may never make money. The company lost about \$700 million in 1992. President Richard G. "Skip" LeFauve promises Saturn will break even this year, but that's only because of creative accounting. LeFauve concedes the company will be paying only ongoing expenses, such as materials and wages, plus the amor-

tized \$1.9 billion cost of Saturn's factory. An additional \$3 billion in Saturn's startup costs go on GM's books. "Saturn started about 20 miles in the hole, and there's just no way they can get out," says author Womack.

Costs aside, however, Saturn sent a urgent message to Neon: Top quality crucial to sales. Defect rates on Chrysler products have declined dramatically over the past decade, but they're still higher

JAPAN'S NEW CREDO: AVERAGE CAN BE GOOD ENOUGH

Minoru Takei spent the winter of 1990 peering into cars driven by young women. Japan's minicar market was slumping, and Takei, Honda's development chief for extra-small vehicles, planned a cost-cutting revamp of the Today, which Honda doesn't export. He had to do it, however, without losing features that appeal to the car's mostly female owners. Finally, he decided to junk Today's hatchback for a cheaper trunk. With other efficiencies, that let him add an air bag, cut the price of last January's model by \$440, and post March unit sales 21% above his target. "We were the weird ones in the company," he says. "Everyone else was upgrading and ignoring us."

They're listening now. With Honda's sales hurting in Japan and the U.S., "our focus now is value for money," says Shinya Iwakura, a Honda Motor Co. director. In the booming late '80s, even subcompacts got bigger and sprouted Lexus-like gadgets such as vibrating side mirrors to shake off rain. But the recession has dulled budget-wary buyers' appetite for top-end features on what were once economy cars. "Japanese carmakers overused their strengths," says Takahiro Fujimoto, an auto expert at the University of Tokyo. "They must now develop a keen sense of priority."

NEW THINKING. Easier said than done. The sharply stronger yen, plus laws requiring new safety and emissions gear, mean Japanese carmakers have to cut costs just to stay even. They won't risk safety, reliability, or perfor-

mance. But the pressure is so intense that instead of insisting on perfection, they're looking for areas where average will sell. Takayasu Honda, the Corolla's chief engineer, wants to shave 10% off the cost of an air-bag system, for instance, partly by making the gold-plated connectors on its sensors thinner. He's also investigating whether it's worth the expense to ensure especially narrow seams between body panels when U.S. buyers don't seem to

back saved money because a vehicle with just a trunk needs a less extensive superstructure. Takei also kept 40% of the parts in the earlier version. On the new Domani, a sister to the Civic that's sold only in Japan, 60% of the parts in a model unveiled in October are shared with other Hondas.

Most important, Takei's 30-member team pioneered development changes now used throughout the company. A year before design drawings were finished—instead of the

usual six months—40 first-tier parts makers that contribute 90% of the value of the car were invited in. They took apart an old Today, spread out the pieces at Honda's research and development lab in Tochigi, and offered ideas on making parts less expensively. More time for tinkering led to more accurate—and often, lower—cost estimates. "Investing time early means fewer surprises," Takei says. Now that Honda has practiced on two domestic cars, its export models are getting the treatment.

In short, low-cost development such as that achieved on Chrysler

Corp.'s Neon is becoming *de rigueur* for auto companies. Entering its fiscal 1993, which ends in June, Toyota Motor Corp. planned \$350 million in cost cuts to avoid an operating loss. It axed \$532 million in just the first half and now expects savings for the year to total \$880 million—roughly one-third of pretax profit. It'll take some time for the Japanese to adjust to being more average. But it's a sacrifice they'll gladly make to get results like that.

By Karen Lowry Miller in Tokyo

**IWAKURA:
"OUR FOCUS
NOW IS
VALUE FOR
MONEY"**



notice. "If the market accepts lower standards, is it really a good idea to keep standards at our level?" he asks.

Maybe not. That's why cost-cutting, which used to mean cheaper ways to manufacture, now means cheaper design. "It's a matter of completely changing our way of thinking," says Hiroyuki Ito, the subcompact Civic's chief engineer. At Honda, whose engineers have had a notoriously free hand, the revised mindset began with the new Today. Dumping the hatch-

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than almost everyone else's. In 1992, Chrysler's current small cars, the Dodge Shadow and Plymouth Sundance, had 162 problems and 137 problems, respectively, per 100 cars, according to J. D. Power. That's worse than the small-car average of 111 problems and well behind leader Toyota Corolla's 76. *Consumer Reports*, meanwhile, rates the two cars' reliability next to last among small models, ahead of only the Hyundai Excel. Marcell vows that Neon will match the Corolla.

HARD MILES. To make good on that promise, test drivers are logging unprecedented hours. By the time sales kick off, Neon prototypes will have been driven 4.7 million miles—40% farther than Chrysler's LH sedans. In another break with tradition, Belvidere workers will rack up 1.5 million miles to get hands-on experience with the products they'll build. Some early prototypes have already gone 250,000 miles, helping engineers identify weak spots, such as a front-suspension component that has been reinforced.

By last February, Chrysler felt confident enough about the Neon prototypes to let outsiders behind the wheel. Automotive journalists and industry analysts traveled to Chrysler's Arizona proving grounds for a day of briefings and driving. Most came away impressed by the power of Neon's peppy engine and by its agility on corners. "They really are superb," says analyst Cedergren. "You feel like you're driving a bigger car."

In an unusual twist for a U.S. company, Chrysler plans the Neon's public debut at September's auto show in Frankfurt, Germany. Team members want to drive home the point that it can run with the best small cars in the world. They also hope to attract a few buyers. The Neon will go on sale in Europe in April, 1994, just four months after it arrives in U.S. showrooms. Marcell hopes that European demand will help keep Belvidere humming at its 300,000-a-year capacity. That's key to making full use of Chrysler's investment and making the Neon profitable. If demand falls short, he's ready to start building right-hand-drive versions for export to markets such as Britain and Japan.

Marcell and his team can't get too cocky. Saturn is a formidable rival. And Japanese carmakers are fighting back, methodically cutting costs (page 124). They absorbed the effects of a strengthening yen in the mid-1980s without breaking stride, and they'll recover this time. Still, the Neon has as much chance to succeed as any U.S. subcompact ever has. And to prove, in the bargain, that Detroit can once again run at the front of the pack.

By David Woodruff in Detroit, with Karen Loury Miller in Tokyo



FILMING AN INFINITI COMMERCIAL: WARMTH, HUMOR—AND A MAMBO ON THE STEREO

INFINITI: IF AT FIRST YOU DON'T SUCCEED...

How Nissan relaunched its flagship—with a new ad campaign

William R. Bruce is clearly pleased. He's standing on the edge of a soundstage in Hollywood watching commercials for the new Infiniti Q45 sedan being shot. He has already seen rough versions of the ads that will kick off the campaign on Apr. 23, and liked them. For the vice-president and general manager of Nissan Motor Corp. USA's Infiniti luxury-car division, there's only one sour note: Among the 30 or so people milling around the huge set, several sport black T-shirts emblazoned with the name of the lighting subcontractor—which just happens to be Lexus Lighting.

Few could miss the irony. Ever since Infiniti launched its first automobile, in November, 1989, it has been in the shadow of Lexus, the luxury-car arm of arch-rival Toyota Motor Corp. Lexus' conservatively styled LS400, launched three months earlier, became an immediate hit. But Infiniti opted for a distinctive, love-it-or-hate-it design that relegated the Q45 to a niche. By stressing performance, Infiniti turned off those drivers looking for opulence and comfort. At the end of March, Infiniti had only a 3.9% share of the U.S. luxury market, compared with Lexus' 7.7% and Mer-

cedes' 4.5%. With parent company Nissan suffering \$250 million in operating losses due to problems at home, Infiniti is under pressure to do better.

The 1994 Q45 is designed to move Infiniti into the mainstream of the market with more than 70 enhancements, such as a chrome grille and softer leather seats, which are intended to push the traditional luxury buyer's buttons (table). And the advertising represents a sharp change from earlier campaign. "It's more than the launch of a new car," Bruce says. "In a sense, because the Q45 is our flagship, it's the relaunch of Infiniti."

JOKE FODDER. In fact, Infiniti is spending as much on the new campaign as it did to launch the original Q45. The first Infiniti ads, created by Boston agency Hill Holliday, Connors, Cosmopolis Inc., featured loving shots of haystacks in a field and ripples in a pond. The spots had impact: In Top 10 brand-awareness surveys, consumers kept citing them for more than a year after they stopped running. But the campaign became fodder for jokes by Johnny Carson and David Letterman because it ran for months without ever showing a car. "A big part of buying a car is 'How will my friends and neighbors react to it?'" says Rich-

Zien of Mendelsohn/Zien Advertising Inc. "Despite the fact that it's a great car, very few people are secure enough to buy a \$40,000 product that is become the subject of jokes."

Hill Holliday's ensuing campaigns sought the safer ground of winding roads, orange traffic cones, and beautiful women. They hammered home the performance theme—and the spots were lost in the clutter of lookalike car ads.

Last November, Infiniti uncerebrally dumped Hill Holliday and gave Chiat/Day Advertising Co. the account, probably worth \$10 million a year in billings. The West Coast shop had proven itself at handling all the advertising for Infiniti's sister Nissan division, an estimated \$250 million account, for six years. Now, Chiat/Day had less than six months to pull together a huge project: producing nearly 20 commercials for Infiniti's three models. Because the deal specified that he couldn't raid the Nissan account team, Steve Goldman, the Chiat/Day senior vice-president in charge of the Infiniti project, had to start from scratch. He hired and trained 76 new people before yearend.

November and December were filled with frenzied meetings, as the fledgling team tried to absorb as much as possible about Infiniti and its market. The agency brought in Yankelevich Partners Inc., whose surveys showed that rich car buyers want to be seen as having made the smart choice. A "war room" in the converted warehouse that serves as Chiat/Day headquarters in Venice, Calif., was the site of weekly meetings with Infiniti staffers.

NERVOUS. The seminal idea for Chiat/Day's campaign emerged during an intensive course at Infiniti's Carson (Calif.) headquarters for the agency team—an abbreviated version of the weeklong training required for all Infiniti dealers' employees. Chiat resident and Senior Creative Director Bruce Clow was struck by how simply the trainer, John Jaeger, could explain the cars' features. Clow invited him back to Chiat/Day to further an idea: Why not present the cars, and the company, in a series of individual ads that each highlighted a single Infiniti feature?

That idea got lost in January, when Chiat/Day turned the team loose to de-

velop the "creative," the part of a marketing strategy that shows up as commercials. "We started going down four or five paths and getting nowhere," Goldman says. For example, they toyed with the idea of a campaign that talked about the experience of owning an Infiniti but rejected it as too philosophical and fuzzy. They considered testimonials from owners who had traded in competing luxury cars but realized that tes-

to imbue the \$20,450 G20 sedan with the aura of its larger, costlier brethren.

Clow patiently explained the difficulties of describing three models in a 30-second commercial, but Bruce wouldn't budge. Finally, Clow leaped out of his chair to say: "O. K., the first commercial will be"—here he put on an announcer-like voice—"the president of Infiniti wants you to understand that we have three lovely cars to choose from." The

room broke up with laughter, and Bruce approved the single-feature campaign. That set the agency off on a whirlwind two months of focus groups and repeated presentations to Infiniti regional managers, dealer organizations, and ever-higher levels of Nissan management.

MOUTHPIECE. The look of the campaign is sparse: a dramatically lit car on a sweeping expanse of

white background. Chiat/Day wanted to use an actor as a guide to the car, someone to take the viewer around it and explain its features. But it didn't want a celebrity who would steal the limelight. Most important, it needed someone who would sound sophisticated and intelligent yet could interject warmth and even a little humor into the ads.

It took more than a month to come up with Jonathan Pryce, and Chiat/Day didn't get the final approval to sign him until Mar. 31, just five days before its

marathon shooting began. Pryce, the male lead in the musical *Miss Saigon*, most recently played Henry R. Kravis in the Home Box Office cable-TV movie *Barbarians at the Gate*.

As the LBO king, Pryce was haughty and aloof. But here, from Bruce's vantage point on the edge of the soundstage, he is witty and charming. Today's shoot, which will air next month, highlights the

Q45's Bose stereo system. Pryce moves from place to place in the car, remarking that the speakers sound so good there's not a bad seat in the house. Then, getting out, he does an exaggerated dance step to the mambo music. And, in a subtle spoof of the car's original image, he intones: "After all, the word performance has more than one meaning." Bruce loved it. Perhaps more important, it even got a few chuckles from the guys from Lexus Lighting.

By Larry Armstrong in Los Angeles



INFINITI'S MIDLIFE MAKEOVER

Nissan has softened the austerity of Infiniti's flagship Q45 with visual cues that suggest luxury inside and out:

- ▶ Chrome accents the car's sides, taillights, and windows
- ▶ The car's front end has been redone with wraparound headlights, fog lights, and a grille in place of the old Q45's ornate medallion
- ▶ The interior gets wood accents and softer leather
- ▶ The console now can hold cups and hide a cellular phone
- ▶ Key-chain remote control has more than the usual door-lock and trunk-release functions: It also rolls down the windows



timonials can't be used to introduce a new car. After a session with agency head Jay Chiat, it was back to Clow's simple-story approach.

On Feb. 1, Chiat/Day showed the idea to Bruce. It made him nervous. He had been expecting several ideas, but only one was presented. He made the ad team return later that week to show its other ideas and explain why they had been rejected. And he was adamant about having at least one ad showing all three cars in the Infiniti line, largely



460,000 happy mothers in a single day.



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SECONDHAND SMOKE AT RJR NABISCO

Gerstner's exit, a cigarette price war, and the likelihood of new taxes are clouding its well-laid plans

The chief products of RJR Nabisco are cigarettes, food, and high drama. In Act One of an epic that premiered in 1988, the corporation and its luscious cash flow were prizes in a titanic takeover battle won by Kohlberg Kravis Roberts & Co. Two years later, in Act Two, RJR's megadebt almost destroyed it. But in the nick of time, a KKR refinancing rescued the company.

Now, as the curtain opens on Act Three, the drama continues at RJR Nabisco Holdings Corp. There's management turbulence as CEO Louis V. Gerstner Jr. exits to head IBM. Further thickening the plot: A cigarette price war and a proposed tobacco tax hike threaten the cash flow it needs to handle its still mountainous debt.

Even though the New York-based tobacco and food giant has made steady progress in trimming the \$24 billion in long-term debt that blighted its balance sheet after the 1988 leveraged buy-out, RJR is still weighed down with \$13.5 billion in debt. And now, the company's cash flow could dip by 17%, to \$3.4 billion in 1993 (chart), predicts Ellen G. Baras, a vice-president at Duff & Phelps/MCM Investment Research Co. "RJR has less of a margin for error these days," she says.

RJR hardly faces disaster. Its cash flow will still cover interest payments by a comfortable three-to-one. But RJR's flexibility may be reduced. At worst, RJR would have about \$950 million left over in so-called free cash flow this year after paying interest, scheduled debt maturities, capital spending and other vital costs. That's down from \$1.6 billion left over at the end of 1992. Further debt redemptions must come from free cash flow. So must extra capital expenditures, which RJR must make

to challenge rivals with new products and rejuvenated old ones. RJR last year boosted capital spending 13%, to \$519 million—and has told analysts that to stay competitive it will increase that by another 15%, to \$600 million, in 1993.

In addition, the new cigarette plants it's building or buying and renovating for its emerging markets in Europe cost a lot of money (page 132). The same is true for marketing campaigns at home. Analysts predict the company will hike its \$1.8 billion U.S. marketing budget for tobacco by \$500 million this year. Moreover, competitors enjoy lower debt and higher credit ratings, which translate to more favorable capital costs. Philip Morris Cos. and American Brands Inc., for instance, have single-A credit ratings from Standard & Poor's Corp. By contrast, RJR has a triple B-minus.

The smaller cash stream

comes at a time when RJR needs all the financial might it can muster to do battle in the looming tobacco price war. Under pressure from discount brand RJR archrival Philip Morris unleashed the first salvo in what promises to be a brutal battle by announcing on April 1 that it would issue coupons that drop the price of a pack of Marlboros by 40¢ to about \$2.00. RJR will likely respond by cutting prices on its own premium brands. James W. Johnston, RJR's tobacco chief, has already vowed: "We will not allow competitors to take significant volume away from us."

FRESH FOOD. Unfortunately for RJR, the assertion spells almost certain strain on the company's finances. Analyst Leigh Ferst of Prudential Securities Inc. reckons that U.S. operating profits from its R. J. Reynolds tobacco division could fall by 6%, to just under \$2 billion. Sales are expected to be roughly unchanged.



**KARL
VON DER HEYDEN**
CO-CEO

RJR CONTINUES TO PARE DEBT...



...AND STEEP HURDLES LIE AHEAD

CIGARETTE DISCOUNT

RJR, the No. 2 discount cigarette company, will follow industry leader Philip Morris and slash prices on premium brands. This would backstop cash

*ASSUMES SUCCESS OF \$1.5 BILLION STOCK OFFERING **PROJECTION IF RJR DISCOUNTS CIGARETTES
DATA: COMPANY REPORTS, DUFF & PHELPS/MCM INVESTMENT RESEARCH CO

6.2 billion. Some analysts say overall company earnings could drop by 10%, to \$2.6 billion, while sales may grow by 1% to 4%, to \$16.4 billion.

Until recently, RJR's financial forecast was starting to look sunny. Since 1988, the largest LBO in history has made great progress paring debt. Last year, credit-rating agencies elevated most of RJR's bonds from junk to investment-grade. Largely by selling off several food companies, such as Chun King and Hefty Wheat, RJR raised enough cash to reduce its debt to almost half the 1988 amount of four years ago. That and refinancing high-coupon paper at current low rates has sent the interest bill plummeting. Last year, it totaled \$1.1 billion, down from \$3 billion in 1990.

RJR aims to lighten the debt burden even further with a May stock offering, trying to take advantage of the relatively brighter prospects for its food division, the company planned to issue a separate class of stock for RJR's Nabisco Foods Co. In effect the offering would split its stock into distinct food and tobacco shares. By issuing 93 million shares, RJR hopes to raise \$1.5 billion to \$1.7 billion in fresh capital. The proceeds would go to redeeming some of its highest-interest bonds, most likely ones paying 13.5% and 15%, saving an additional \$200 million or so in interest.

This tidy scenario suffered a setback after Gerstner's departure and the Marlboro price cut. On Apr. 13, RJR was forced to reduce the proposed dividend payout it had planned to accompany the

**RJR WILL PAY
A DIVIDEND—THE
FIRST SINCE ITS LBO.
BUT IT WAS FORCED
TO CUT IT BY 75%**

stock offering. Many analysts believe the move was designed to preserve cash and enable RJR to respond to Philip Morris with its own cigarette price reductions. RJR, which hasn't paid a dividend since its LBO, had planned to pay 32¢ a year for a tobacco share and 12¢ for its food stock. Now, it has decided to ax the planned tobacco dividend. It also scrapped the idea of issuing food shares to existing RJR stockholders so it won't have to send them the 12¢ payout. The dividend would remain intact for new investors who participate in the offering. The stingier dividend outlay saves RJR about \$300 million annually.

All this turmoil means the new stock offering could be a tougher sell. RJR had hoped to price the offering at \$17 to \$19 a share. Now, Wall Street sees a share price of \$16 to \$17 at most. That could mean that RJR would fall short of its initial goal by \$100 million to \$280 mil-

lion. Complicating the offer is the battering tobacco and food-company stocks have received since Philip Morris made its pricing announcement. RJR's shares have tumbled by 28% since Apr. 2, to 5%, a lot lower than the initial offering price of 11¼ in 1991. Making matters worse, Ellen R. Marram, the highly regarded chief of RJR's cookie division, left Apr. 14 for a top job at Seagram. "I don't see any compelling reason to get involved" in the new stock, says Arthur Cecil, an analyst at mutual fund giant T. Rowe Price Investment Services Inc., which owns a big stake in RJR.

RJR says the offering is still scheduled for May. But the company won't give specifics. Gerstner's successors, co-CEOs Lawrence R. Ricciardi and Karl M. von der Heyden, declined to comment for this article, citing the upcoming offering. KKR, which owns 46% of RJR stock, also refused to comment.

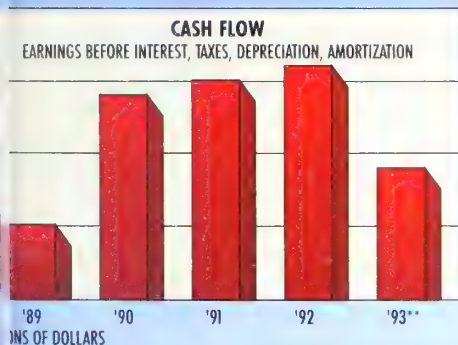
QUITTERS. Even before Philip Morris issued its call to arms, RJR's lush revenues from tobacco were under pressure. Health-conscious Americans continue to give up smoking. Overall, U.S. cigarette sales are dropping about 2% a year. And RJR's efforts to expand abroad are still overshadowed by Philip Morris' more extensive international presence.

Still, the biggest blow to RJR's tobacco business has been the U.S. consumer shift to lower-margin discount cigarettes. First introduced 10 years ago, brands priced at as little as half of premium smokes now account for one-third of cigarette sales. RJR is clearly the industry leader when it comes to discount cigarettes. Cheap brands account for 42% of RJR's product mix, up from 28% in 1991. Still, most of the tobacco division's revenue comes from premium brands, such as Winstons and Camels. Winston alone accounted for one-third of the U.S. tobacco division's \$6.2 billion in revenue last year.

And if that isn't bad enough, RJR must cope with the likelihood of a federal tobacco tax that would further depress cash flow. To help pay for the Clinton Administration's pending health-care plan, most industry insiders foresee a federal tax of 75¢ or more per pack. That's in addition to an existing 24¢ levy. And states are steadily boosting their tobacco taxes. Massachusetts now charges the most—51¢.

RJR's Nabisco division is in better shape. It dominates almost all of the food businesses it's in. But the

...BUT CASH FLOW MAY DIP...



TABACCO TAX BOOST

RJR would take a big hit from the Clinton Administration to boost the federal cigarette levy, now 24¢ a pack, to as much as \$1. RJR hopes that won't happen until next year.

NEW STOCK OFFERINGS

Company plans to issue separate class of stock for its Nabisco food division. Despite management upheaval and scaling back of proposed dividend, it insists May public sale of food stock will go forward.

**LAWRENCE
RICCIARDI**
CO-CEO



food business doesn't generate anywhere near enough cash flow to offset the sag on the tobacco side of the company. RJR has had to spend heavily on marketing to maintain its market share. That's why Nabisco Foods' operating profits rose only 3% last year, to \$947 million, while revenues rose 4.4%, to \$6.7 billion.

So what does all this mean for RJR's

all-important cash flow? Last year, it hit \$4.1 billion. The company estimates that a tobacco price war will slice off \$250 million. Some Wall Street analysts fear it will be as bad as \$700 million. On top of that, higher cigarette taxes could zap sales by as much as \$150 million per year. In a declining market, RJR has few places to look to replace those revenues.

Given the bumpy road ahead, it's not a good time for cash flow to be stanchied. Of course, the price war may be short-lived. And radical tax hikes that the industry fears may not happen. But in light of RJR's penchant for drama, look for an exciting Act Three.

By Larry Light and Laura Zinn in New York, with Maria Mallory in Atlanta

LOTS OF PUFFING BUT LESS PROFIT IN NEW MARKETS OVERSEAS

On the streets of Bucharest, it's not unusual to see people paying taxi fares with Kent cigarettes. In China, it's good form to greet friends by passing around a pack—preferably Marlboros. In Warsaw, nearly every bus is a moving billboard for U.S. smokes.

Western cigarette makers hope the emerging markets of Eastern Europe, Asia, and Latin America will cushion them from troubles in established markets, such as the U.S. Business overseas is brisk, indeed. On Apr. 20, Philip Morris Cos. reported international tobacco income in the first quarter jumped 18%, to \$675 million on a 17% revenue increase. London-based cigarette marketer BAT Industries PLC and R. J. Reynolds Tobacco International Inc. expect similar gains. No wonder Reynolds International Chief Executive Dale F. Sisel says he looks ahead "to unbounded opportunities in a growing world market."

Overseas opportunities don't necessarily spell an instant profit windfall. "A lot of the bulls were hoping the international side would offset the slide in the U.S.," explains Gary D. Black, a tobacco analyst at Sanford C. Bernstein & Co. "But when you put pencil to paper, it's not there yet." At Philip Morris, for example, domestic tobacco accounted for only 47% of 1992 cigarette sales but more than 70% of profits. Domestic tobacco accounted for almost 80% of Reynolds' cigarette profits. Price wars will lower domestic earnings this year. But average profits of 10¢ per pack overseas still won't match an estimated

U.S. profit of 25¢ to 30¢ per pack.

Tobacco companies face challenges in both developed and new markets. Western Europe and Japan, two hot markets for Philip Morris and Reynolds, are starting to show their age. Excise taxes are high, population growth is about flat, and antismoking ordinances are starting to multiply. Government monopolies are fighting back with American-style cigarettes or discount brands. So market-share growth for the U.S. companies will probably moderate.

The emerging markets are more promising in terms of sales, but not

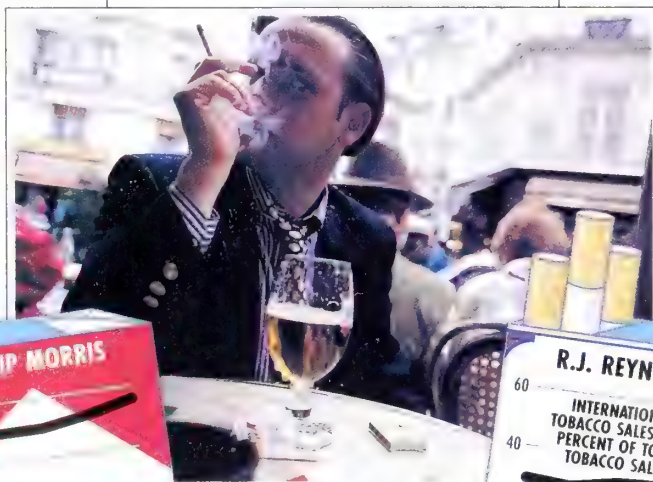
ing a worldwide market for Camels. All three are buying market share in Eastern Europe. By acquiring Czech cigarette maker Tabak, Philip Morris snapped up 55% of the market. BAT last month bought 65% of Prilucky Tobacco Factory, which supplies 20% of the Ukrainian market. In Hungary, Reynolds purchased the Satoraljuhely cigarette factory, which already claims a 20% market share.

AD BANS. The simple strategy the multinationals are following—grabbing as much share as possible—is drawing fire from alarmed health officials. In Hungary, officials forced Reynolds to remove Camel ads from 22 public trams. Already, Hong Kong and China have banned television ads after protests led by activist Judith Mackay. Other Asian governments have sought Mackay's advice, and networks of activists have sprung up to oppose smoking's growth, especially among women and teens.

But even Mackay recognizes the power of the tobacco companies. "[Global] sales will go up for the next 20 to 30 years," she says. Recently, on Hong Kong's famous Nathan Road, smartly dressed young women pressed Camel cigarettes and lighters on passersby.

Similarly, Shanghai's gleaming new subway has yet to open, but four completed stops already sport giant backlit cigarette billboards. It's a sure bet that sales of Western cigarettes will soar in such places. But whether the profits will ever prove as sizzling as they have been in the U.S. is far from certain.

By Paula Dwyer in London, with Maria Mallory in Atlanta, Dave Lindorff in Hong Kong, and bureau reports



LIGHTING UP ABROAD

profits. In the former Eastern bloc, analysts figure Philip Morris and Reynolds make a profit of 2.5¢ a pack. Huge up-front investments in manufacturing and marketing are needed. And with disposable income low, big price increases are tough to pull off.

Despite the drawbacks, none of the tobacco giants is staying on the sidelines. BAT wants to build on its dominance in Brazil. Philip Morris wants to widen its lead over Reynolds, which is playing catch-up by further develop-



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A FREEWHEELING YOUNGSTER NAMED IBM

Its PC Co. is independently churning out new products, grabbing market share, and turning a profit



As Louis V. Gerstner Jr. takes over IBM, he surveys a landscape littered with failures. In market after market, the computer giant has lost ground, missed opportunities, and blown its lead. Lots of folks figure that Gerstner's best bet to deliver shareholder value is to sell off big chunks of the company.

Before he calls in the investment bankers, however, he might take a closer look at what's going on at the IBM PC Co. This \$10 billion unit, created last September to halt IBM's slide in the key personal-computer market, is proving that IBM—or at least part of IBM—has the talent and drive to win back leadership in one of the most competitive parts of the industry. A year ago, IBM was pushing overpriced, outdated PCs and losing what outsiders estimate to be as much as \$1 billion annually. In just two quarters, the subsidiary has reversed its slide, won back market share, and, says IBM, started making money. "This is a very important model for the whole company," says James A. Cannavino, vice-president of the Personal Systems Div., which includes the IBM PC Co.

LOWERED ROADBLOCKS. The IBM PC Co. is certainly IBM's boldest stab at entrepreneurship. Despite its 12-year history and 9,500 employees, it is trying to operate like any freewheeling Silicon Valley startup. To see if the company stacks up against what Cannavino now considers its peers, he and a half-dozen top executives recently headed for California. "I think we've changed a lot," says Cannavino. "I wanted to see what the rest of the industry thought."

Cannavino invited 32 CEOs of startups funded by Accel Partners, a San Francisco venture-capital firm, to the Thomas Fogarty Winery in the hills above Palo Alto. Most of the CEOs were cynical and a tad hostile, having locked horns with the old IBM. "We've tried to deal with IBM in the past. We couldn't get beyond the 500-page nondisclosure

agreement," says Gregory T. Hopkins, founder of WINDATA Inc., a company that makes wireless computer networks. Roger D. Linquist of Pagemart, a nationwide messaging service, says he had approached IBM to enter a strategic partnership but was stymied by Big Blue's famous not-invented-here attitude. "I was expecting a senior group of executives who would be quite opinionated and close-minded."

Quite the opposite. Cannavino, IBM PC Co. President Robert J. Corrigan, and the rest of the team spent a long 10 hours winning over a tough audience. They showed how they had cut out roadblocks to working with outside companies—including a new, three-page nondisclosure agreement. They said the PC

Co. no longer worries about partnerships that might wind up competing with other parts of IBM. "There's been a fundamental shift in their attitude," says Mark Leslie of Veritas Software Corp. "These guys aren't like the old IBM." Harvey C. Jones, CEO of software maker Synopsys Inc., was really impressed. "I even went out and bought some stock afterwards," he says.

Jones's enthusiasm hasn't quite spread to Wall Street. Since posting a \$5 billion loss in 1992, IBM's stock has bounced back to only around \$50 from the year low of 45%, which came after the earnings disaster. The company is still struggling: On Apr. 20, it reported a first-quarter loss of \$285 million and a 7% revenue decline to \$13.1 billion.

SEPTEMBER 1992

IBM's share of the IBM PC market drops to 16.4%. Big Blue again sets PCs free, creating the autonomous IBM PC Co. One month later it announces the ValuePoint line, a low-priced IBM PC clone.

JULY 1991

IBM, Apple, and Motorola form a partnership to come up with a new PC architecture—a new chip and operating system.

1990

IBM's relationship with Microsoft deteriorates after the software maker begins to push its Windows software at the expense of OS/2.

DECEMBER 1988

James Cannavino is named president of ESD.



1993

Successful products such as ValuePoint and Thinkpad notebook PCs rebuild IBM market share. Company plans innovative models including the "Green PC."



APRIL 1987

IBM introduces the PS/2, which uses the proprietary Micro Channel architecture, aimed at taking back clones. IBM and Microsoft announce OS/2, a graphics operating system.

Microsoft

In all the gloom, the fledgling IBM PC Co. is a beacon of success. Its dramatic reversal of fortune has surprised even its own executives. "It is as certain it would work a lot better than what we had," says Sam Cannavino, head of North American marketing for the IBM PC Co. "But no one knew it would work as well as it did." It's working so well that, according to International Data Corp., IBM's share of the worldwide PC market rose from a dismal 10.9% last year to 19.9% in this year's first quarter.

KYO TRIP. Cannavino says he knew the PC operation needed shaking up as early as 1990, when market share stood at 13.1%. He had been named president of the Entry Systems Div. (as the Personal Systems Div. was then called) in 1988, the handpicked successor to Richard T. Gerstner, Lou Gerstner's older brother. The senior Gerstner was forced into early retirement by a bout with Lyme disease. PCs were still making money then—an operating profit of about \$3 million a year, according to Cannavino.



CORRIGAN: SHOULD A SPIN-OFF COME, THE PC CO. IS READY, HE SAYS

IBM didn't want to tamper with a successful business, but Cannavino argued that the PC industry was changing fast. To keep up with shorter product cycles and narrowing margins, he wanted a total overhaul. At that time Entry Systems, which handles PCs, workstations, and desktop software, didn't control its own marketing, research, or manufacturing. New products took three years to develop, while competitors were cranking them out every few months.

In September, 1990, Cannavino brought his top executives to Tokyo and gave them their orders: no going home until they came up with a plan to break down the functional boundaries. "I said, 'I hope we get home for Christmas,' but we were all beginning to wonder what a Japanese Christmas would be like." They just missed finding out. The plan, which called for seizing control of research and development, was completed on Dec. 18.

That helped. PC marketers could get new models in six months, but they were still fettered by layers of bu-

reaucracy spiraling out from corporate headquarters in Armonk, N.Y. It could take 60 days to 90 days, for example, just to get a price change O.K.'d, since each layer of management had to, as they say in IBM-speak, "concur." Some pricing decisions went all the way to Jack D. Kuehler, then IBM president.

By early 1992, management decided to free the PC division entirely. That would bring it back to its roots. An independent business unit known as Acorn in Boca Raton, Fla., had built the first IBM PC in 1981. In the mid-1980s, the highly independent unit was brought north and into the corporate fold (table).

This time, Corrigan, a 31-year IBM veteran, was given complete autonomy over his own marketing, distribution, manufacturing, product development, advertising, and public relations. His employees work under what Corrigan calls a very flat organizational chart—i.e., minimal hierarchy. And the company balks at unjustified overhead bills from the parent corporation. "We challenge every cost we're allocated," says Edward Rogers, the division's chief financial officer.

TEAM TIME. The most radical change is the move to brand teams. Instead of following the standard IBM formula of organizing by function, the PC Co. is split into five groups: the low-cost ValuePoints, the more expensive PS/2, the PS/1 aimed at home and small-business users, portable products, and the Ambra, a line of PCs built by an Asian contractor and sold in Europe. Each team is in charge of its own brand development, manufacturing, pricing, and marketing.

Teamwork had practically been an alien concept. Bruce L. Claflin, general manager of the mobile-computing division, says when he gathered his brand executives last July to plan the Think-

FULL CIRCLE?

JUNE 1980

IBM sets up the "Acorn" project, a task force of 13 engineers with a mandate to develop a desktop computer in one year.

AUGUST 1981

IBM introduces the Personal Computer with ads featuring Charlie Chaplin's Little Tramp. Overnight, IBM grabs 75% of the corporate market.

NOVEMBER 1982

Compaq Computer Corp. comes out with the first successful IBM clone.

COMPAQ®

1986

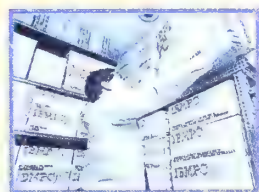
Don Estridge, the executive who launched the first PC, is shifted into a corporate job. IBM curbs autonomy of Entry Systems Div., moving it from Florida to Montvale, N.J. PC Jr. is killed.

SPRING 1985

Don Estridge, the executive who launched the first PC, is shifted into a corporate job. IBM curbs autonomy of Entry Systems Div., moving it from Florida to Montvale, N.J. PC Jr. is killed.

OCTOBER 1983

IBM attempts to crack home market with underpowered PC Jr., its first PC flop.



Information Processing

Pad 700C, he soon discovered why it took so long to push out a new product: Everybody cared more about how their own area—say, marketing—would fare than for what was best for IBM. “The marketing people knew [the 700C] would be competitive, but they had made commitments to sell only 6,000 worldwide. They didn’t believe the development group would build it anyway. The development people knew they could design it, but they said, ‘Well, marketing won’t sell it, and anyway, manufacturing can’t build it.’ And manufacturing figured it would never be developed. It was complete gridlock.”

The brand-team approach forced warring factions to join forces, and in three

turned profitable in the first quarter.

That should help Gerstner decide what he wants to do with the IBM PC Co. “My objective is to get this thing running as a wholly owned subsidiary so the board can decide to keep it or sell it,” says Corrigan. The better Corrigan does, the less likely IBM is to kiss off his operation. “It’s a good money-maker,” says Cannavino, who is against selling off such a strategically important business. “There are a lot of symbiotic advantages to being connected to a PC company.” And the PC Co. proves that you don’t have to be small to be good. “It doesn’t matter what the size of a company is,” says IDC analyst Antony C. Picardi. “It’s the bureaucratic mind-

When it announced the ValuePoint 15 last October, Compaq Computer Corp. tried to steal the moment by announcing even lower prices on its ProLinea line the day before. The ValuePoint team gathered at the company’s Manhattan skyscraper that night. They rewrote the price list so fast that they didn’t have time to reprint promotional posters. IBMers had to tape on the new prices.

Now, no more than six brand executives are needed to change prices. When the ValuePoint team cut again in early March to match another Compaq move, Corrigan didn’t even know until the deed was announced.

For IBMers who worked in Boca Raton in the old days, there is a sense of do-



A THINKPAD 700C AND MOBILE-COMPUTING CHIEF CLAFLIN: THE “BRAND TEAM” APPROACH LED WARRING FACTIONS TO JOIN FORCES

months the ThinkPad 700C was out and winning rave reviews for its superior color screen and well-designed keyboard. Claflin says 100,000 ThinkPads were sold in the first 53 days. “That’s more [laptops] than we had sold in the last couple of years.”

OBSELETE POSTERS By fall, the teams were in high gear. IBM introduced 89 new products in two months, among them the low-priced ValuePoint PC line, IBM’s answer to the clones. Instead of charging 88% more for its PCs on average than mail-order supplier Gateway 2000, as it did a year ago, IBM now only asks a 30% premium, notes Sanford C. Bernstein & Co. The result: IBM’s unit shipments soared 30% in the fourth quarter and 40% in the first. IBM still doesn’t break out the PC Co.’s results, but the company says the subsidiary

set, the speed at which they make their decisions. That’s what has to change.”

And changing it is. Corrigan is even talking about moving from his elegant I. M. Pei-designed headquarters in Somers, N.Y. to cheaper space. “I’m taking my people out of here,” he says.

Although Corrigan says he has no plans for massive cutbacks, critics say there’s still plenty of fat. “They have too much freaking management,” says an IBM marketing manager. Adds Lars Turndal, CEO of the Santa Cruz Operation, a software maker: “The corporate umbrella is still very large. There is still a hell of a lot of overhead, and they don’t want to kill themselves off.”

The PC Co. may have little choice but to keep trimming overhead: PC prices keep falling, and these days IBM is matching the competition, cut for cut.

vu about all this. James G. Turner, head of the PS/2 brand and an original member of the Acorn team, says: “All of it is looking at us with great envy. Most of the groups would love the same freedom. It’s the same way it was with the original PC company.”

Outsiders also see a difference. John T. Kernan, CEO of educational software maker Jostens Learning Corp. in San Diego, is so enthusiastic about the newly competitive PC Co. that he wants to switch his IBM dealings from the more tradition-bound education division. “There is a much more market-savvy group,” says Kernan. He’s so high on IBM now that Jostens has decided to adapt its products to IBM’s six-year-old OS/2 operating system. “We never would have considered that in the past.”

Inside PC Co., the pressure remains

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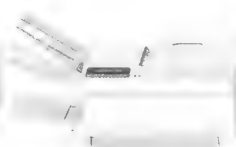
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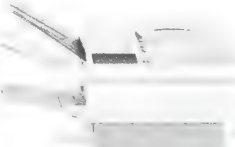
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Canon

high. It has proven that it can execute as well as other PC makers. But it must now show that it can do it repeatedly. A positive sign: In April, the company revamped the entire ValuePoint line, and it says new ThinkPads will be out in the next three months.

The company is also showing that it can still innovate. In June, for example, it plans to start selling the industry's

first low-power desktop machine, the so-called Green PC. And more than any other part of IBM, the PC Co. is shedding the old not-invented-here syndrome. It's betting heavily on joint ventures with Apple Computer Inc. and Motorola Inc. to provide key technology for the next decade (box). Cannavino says he's forming more joint ventures and partnerships. Six are in the works from the

Fogarty Winery meeting alone. "I wouldn't have done this in the past," says Cannavino. "We would have invented it ourselves." Now the question is: can the rest of IBM shake off the past easily? It's a question Lou Gerstner must ask himself every day.

By Catherine Arnst in Somers, N.Y., with Bart Ziegler in Boca Raton and bureau reports

THREE SCRAPPY STARTUPS THAT COULD HELP REJUVENATE IBM



The turnaround in IBM's personal-computer business shows that IBMers can learn new tricks in design, manufacturing, and marketing. But in three tightly focused joint ventures with Apple Computer and Motorola, IBM aims to relearn how to do something harder: how to lead the market with innovations.

The ventures, called Taligent, Somerset, and Kaleida, are working on operating-system software, microprocessor chips, and multimedia software, respectively. By the time all their products appear in 1995, they will have consumed several hundred million dollars, insiders say. Yet each outfit has just a few hundred employees and tries to operate as an independent startup. Says Joseph M. Guglielmi, the 30-year IBM veteran now running Taligent Inc.: "A smaller, decentralized system is essential."

By 1991, when IBM forged the three joint ventures, Big Blue's traditional way of developing products just wasn't fast enough. The company wanted to create a new computing standard, or "platform," around the processor in its RS/6000 workstations. But IBM's processor used nine chips, which kept manufacturing costs high and made it unattractive to other computer makers.

ICE BREAKER. Phil D. Hester, vice-president of IBM's Advanced Workstation & Systems Div., realized that working with Motorola Inc. could help IBM build a single-chip version, called PowerPC, sooner and for less money. It was a radical idea, but he suggested it to headquarters and within months, IBM President Jack D. Kuehler and James A. Cannavino, general manager of the Entry Systems Div., were in Austin to negotiate with Motorola.

Motorola soon suggested that Apple

Computer Inc., its major chip customer, be brought in, too. IBM invited Apple CEO John Sculley and Chief Operating Officer Michael H. Spindler to Austin. Apple eventually agreed to use the PowerPC—and IBM joined it in the Taligent and Kaleida software projects.

Everybody involved was acutely aware of the vast differences in style between regimented IBM and free-wheeling Apple. To head off a culture clash, IBM engineers showed up at ear-

tem called Pink. The software will help customers build information systems from prewritten software modules, or objects—a growing trend.

Up the road at Kaleida Labs Inc. in Mountain View, there's also a heavy Apple influence. Kaleida's goal is to create a programming language to make it easier to create multimedia products. The hardest challenge for the IBMers there, says Kaleida CEO Nathaniel Goldhaber, a former entrepreneur and venture capitalist, is to take on more responsibilities than they had before. At Kaleida, for instance, engineers meet directly with customers to hear what's needed in new products, instead of relying on marketing staff, as IBM does.

In Austin, IBM and Motorola engineers work at a joint venture dubbed Somerset, after the place where King Arthur knights put aside their sword to join the Round Table. Somerset is aiming at a third-quarter launch of the PowerPC chip, which analysts say will be one of the fastest on the market.

It sounds promising. "We're very, very happy," says Apple Sculley, who rates IBM's chip makers as the best in the world. The proof, of course, will be in the products. While the

PowerPC and the software from the joint ventures are all garnering technical kudos from outsiders, they will face a marketplace dominated by Intel Corp. and Microsoft Corp. "The market simply doesn't need another platform," warns Compaq Computer Corp. CEO Eckhard Pfeiffer.

But the ventures may be models for a renewed IBM. "Put smart people in charge, motivate them, and get out the way," says Guglielmi. "That's happening at IBM now." And none too soon.

By Richard Brandt and Kathy Rebello in San Francisco and Peter Burroughs in Austin



ly meetings in casual clothes—only to find their Apple counterparts in IBM-style suits and white shirts. Everybody laughed. Says Hester: "That got things going on the right track right from the start." Since then, all three ventures have strived to make sure IBM's traditional bureaucracy doesn't take hold. The style is pure Silicon Valley: flexible hours, small teams, and pizza bashes to build team spirit.

Taligent, on the fringes of Apple's Cupertino (Calif.) campus, is dominated by the Apple programmers who had already spent several years on what will emerge in 1995 as an operating sys-



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EASY DOES IT: TWO PLAYS FOR THE GO-SLOW NINETIES

Fidelity and Nuveen offer approaches that are giving investors what they really want

Investors are getting more sophisticated. They're not chasing just those funds offering the highest returns. They're looking for other attributes as well, such as minimum risk or tax-free income. Here, we look at the Fidelity Asset Man-

ager Fund, which takes a low-risk approach to investing and which bids fair to become the Fidelity Magellan of the 1990s. We also visit John Nuveen & Co., a firm that's feeding investors' hunger for municipal bonds.

FIDELITY: PULLING IN FIRST-TIME FUND BUYERS

Robert A. Beckwitt was the odd man out when he arrived at Fidelity Investments in 1987. The freshly minted Massachusetts Institute of Technology business-school grad had been hired as the fund giant's first "quant." Of 46 fund managers, he was the only one who used computer models to make investment decisions. The others were traditional stock-pickers who

pored through financial statements and quizzed corporate managers.

While his colleagues may not quite fathom his methods, the 34-year-old Beckwitt is nonetheless one of Fidelity's superstars. The fund he developed and now runs, Fidelity Asset Manager, is a blockbuster. With \$4.9 billion in assets, Asset Manager is outselling even the flagship Fidelity Magellan Fund. This year, Asset Manager is opening 60 new accounts for each new one in Magellan.

Asset Manager is hardly the swing-for-the-fences fund that Fidelity is known for. Instead, Beckwitt's creation

divvies up money among stocks, bonds and cash to minimize volatility and optimize returns. Since the fund's maximum allocation to stocks is 60%—right now it's at 50%—Asset Manager will usually trail the Standard & Poor's 500-stock index when the market is vaulting. But Asset Manager shines when the market is more tame or even negative. Says Beckwitt: "When the S&P goes down, I'm going to beat it."

Beckwitt isn't forecasting a tumble for stocks, but if that happens, he's confident he'll be able to protect his shareholders. His record so far is impressive



BECKWITT'S KEYS TO PERFORMANCE ARE LOW RISK AND COMPUTER MODELS

ASSET MANAGER SHIFTS ITS ASSETS...

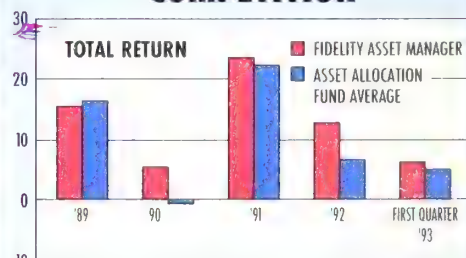
MAR. 31, 1992



MAR. 31, 1993



...AND BEATS THE COMPETITION



▲ PERCENT

DATA: MORNINGSTAR INC., FIDELITY INVESTMENTS

ice the beginning of 1989, the fund's first full year in operation, Asset Manager has produced an average total return of 15.1% a year. True, the S&P delivered an average 15.8% during that period, but Asset Manager had only about half the volatility of the index.

Asset Manager is also trouncing its competitors. Since 1989, the average asset-allocation fund has shown an annual return of 11.5%. Industrywide, Fidelity Asset Manager accounts for about 40% of all the money in asset-allocation funds. It has been taking in new money at the rate of about \$165 million a month the past 15 months.

ONE-STOP SHOPPING. Fund companies led out asset-allocation funds in the wake of the 1987 crash. They were pitched-up versions of "balanced" funds, which are as old as mutual funds themselves. Balanced funds usually keep a steady mix of 60% stocks and 40% bonds. Asset allocators also use cash instruments and may frequently adjust allocations in anticipation of market shifts.

Now, asset-allocation funds are attracting new investors, many of whom

are first-time fund buyers looking for a simple, low-risk way to create a diversified portfolio. "This is not the go-go '80s," says Beckwitt. "That's why the demand for this fund is now." About 40% of Asset Manager's money comes from novice investors, many of whom are ex-bank customers. "The one-stop-shopping concept is very appealing to small investors," says Amy C. Arnott, the analyst for asset-allocation funds at Morningstar Inc. Others are raking it in, too. Merrill Lynch Global Allocation Fund jumped from \$176 million in assets in 1987 to \$2 billion now.

Asset Manager's tremendous growth also comes from Fidelity's marketing muscle. Besides advertising, Fidelity is promoting Asset Manager through a test-sell technique: Prospective Fidelity customers are given a questionnaire, called Fund Match, which assesses their investment options based on their goals and risk tolerance. Fidelity usually recommends some investment in Asset Manager or one of its two sister funds: Asset Manager—Growth and Asset Manager—Income.

Unlike many asset allocators, Beckwitt avoids big bets. He makes changes in asset allocation gradually, usually no more than 10% in any quarter. The changes are determined by computer models that track corporate profits, interest rates, and investor sentiment. The fund is typically split 40%-40% between stocks and bonds, with the remaining 20% in cash, but Beckwitt can go as high as 60% in either stocks or bonds.

Beckwitt's models also identify which industry sectors to invest in, but he doesn't select stocks. That's left to Fidelity

analysts. The fund's top stocks include the Big Three auto makers and financial companies such as Federal National Mortgage Assn. and Citicorp. Beckwitt is also bullish on mid-cap stocks, since he thinks pension funds will buy them as big stocks stumble.

What gives Asset Manager extra kick is Beckwitt's global reach. About 40% of the stocks, 40% of the bonds, and 10% of the cash investments are in non-U.S. markets. Many asset allocators use only U.S. securities. Beckwitt has been increasing offshore assets since last September, when interest rates in Europe and in Japan started to fall. His short-term investments include high-yielding but speculative-grade Mexican Treasury bills. The risks, of course, are that Mexico may default or the peso may collapse. But Beckwitt doubts that will happen. His yield: about 14%. He also owns Mexican "Brady" bonds, whose principal payments, but not interest, are backed by the U.S. Treasury. They yield 10%.

NUVEEN: IT PAYS TO LEVERAGE

Talk about playing a hot streak. John Nuveen & Co., the granddaddy of the municipal-bond business, is turning up aces nowadays. With short-term interest rates at 20-year lows, bond prices at near-record highs, and tax hikes threatened, Nuveen's \$27.3 billion family of funds is at the right place at the right time. And Wall Street approves: The stock has nearly doubled since going public a year ago at \$18 a share.

But severe challenges lie ahead. The arch-conservative Nuveen faces heightened competition that will test its ability to adapt. And it must address increasing concerns that its leveraged, closed-end bond funds, the darling of tax-free investors when interest rates are falling, may turn ugly if interest rates climb. Closed-end funds trade on the exchanges like stocks and tend to be more volatile than mutual funds. "Everything has been perfection for the last two years, and perfection in the investment world just doesn't last," warns

The erstwhile odd man out has parlayed his talents into a mini-empire. In addition to three Asset Manager funds, he runs two bond funds and an institutional asset-allocation fund. He also oversees Fidelity Portfolio Advisory Service, which uses his computer program to allocate assets for individuals. All told, Beckwitt looks after \$7.3 billion.

Beckwitt took a roundabout path to the fund business. He grew up in Colorado wanting to be a concert pianist and spent a year at the Juilliard School. He transferred to Princeton University with an eye toward medical school but switched to economics in his senior year. He then developed computer models at DRI/McGraw-Hill before going on to B-school and Fidelity. In forsaking a musical career, Beckwitt gave up the chance to hear the sound of a concert-hall audience applauding his prowess at the keyboard. But the bravos of fund investors have a music of their own.

By Geoffrey Smith in Boston

Catherine Gillis, an analyst who tracks closed-end funds at Morningstar Inc.

So far, at least, Nuveen and its top officers have profited handsomely. The company turned in record revenue and profits in 1992 and posted profits of \$17.6 million in the first quarter, up 38% from a year ago. Thanks to an incentive-laden compensation package, Nuveen's top executives pulled down some of the biggest paychecks in the financial arena in 1992: \$26.6 million each, in current and deferred compensation, for President Donald E. Sveen and Chief Executive Richard J. Franke.

The key to Nuveen's fate is its leveraged funds. Since they were introduced in 1988, leveraged funds have been growing at a rate of \$5 billion a year, with 53 Nuveen leveraged funds listed on the New York Stock Exchange. The leverage comes not from the traditional method—buying stock with borrowed money—but rather by the way Nuveen structures its funds.

Nuveen sells two classes of shares for each fund—preferred and common. Proceeds from the sale of both classes are pooled and are used to buy munis. The interest from the munis will be used to pay both preferred and



common shareholders. The preferred shares pay a guaranteed rate that's tied to the rate on short-term debt.

Let's say Nuveen sells \$100 million in common shares and \$100 million in preferred. With short rates lower than muni rates, perhaps \$70 million in munis is all that's needed to pay dividends to the preferred shareholders. The rest of the munis—\$130 million—produce income that goes to the common shareholders.

In effect, common shareholders get an interest "bonus" of 30%, because they are getting income from \$130 million in munis. Because of the leverage, these funds will outperform ordinary, unleveraged muni funds when interest rates fall and bond prices rise. But if interest rates spike up and muni bond prices fall, the leveraged funds really get hit.

GROWING NEST EGG. Nuveen isn't the only leverage-lover. The hot muni market has attracted major competition from the likes of Merrill Lynch & Co. and Van Kampen Merritt Inc. And competitors such as Allstate and Colonial offer high-yield muni funds that rival the leveraged variety. Nuveen is buttressing its offerings with a high-profile advertising campaign, on which it spends \$15 million a year.

Nuveen's bosses are keenly aware of the importance of the leveraged fund business and are scurrying to protect it. In top-level meetings recently, they've begun laying out a strategy to address problems that might surface if rates rise and muni prices fall. To ensure a predictable earnings stream in the future, Nuveen is retaining more earnings in its funds, rather than paying out large dividends today. Also, Nuveen is tying the rate paid on preferred shares to longer-term instruments to reduce the company's exposure to a sudden spike in short rates. That makes for a more predictable payment stream. And since long-term bonds react severely to interest-rate changes, the company is investing in shorter-term bonds to decrease the volatility of its muni portfolios.

It's typical advance planning, Nuveen-style. The firm prides itself on taking the long view, and even though economists are predicting that long rates will remain depressed, Nuveen is preparing for the worst. Says Timothy R. Schwertfeger, executive vice-president for corporate marketing, "We tend to take a very measured approach to what we do."

So far, at least, the Nuveen leverage strategy has been a roaring success. But that has been achieved in the best interest-rate environment in memory. Should rates rise again, Nuveen's containment strategy will minimize the damage—but its winning streak will surely be over.

By David Greising in Chicago

IT WAS A SWEET RIDE WHILE IT LASTED

Brokerage stocks cleaned up. It's probably all downhill from here

For the brokerage industry, the first three months of 1993 was a quarter to die for. Merrill Lynch & Co.'s earnings jumped 57%, to a phenomenal \$342 million; Bear, Stearns & Co.'s profits were up 21%, to \$110.4 million; and Charles Schwab & Co.'s profits rose 19%, to \$35.4 million—all personal bests. But for the rest of the year, it's likely to be downhill for brokerage earnings and their earnings-driven stocks. "I think we have seen a peak in the first quarter now for three years in a row," says Sanford C. Bernstein analyst Guy Moszkowski. "The quarter-to-quarter momentum is just not there."

Moszkowski is putting his money where his mouth is. The only pure brokerage stock he is recommending is Sal-

through Apr. 16, vs. a 3% gain for the Standard & Poor's 500-stock index.

Much of the brokerage industry's recent fortunes have come courtesy of Federal Reserve Chairman Alan Greenspan. The bond rally in late 1992 benefited all brokerage businesses. Low rates jolted individuals into higher-yielding mutual funds and stocks and corporations into refinancing debt. Brokerage firms also earned interest income just by borrowing money at low short-term rates and collecting higher yields on long-term bond inventories.

Many analysts, though, think interest rates have fallen about as far as they can go and may even start creeping back up as the economy improves. "The next interest-rate shock is bound to be on the upside," says Moszkowski. That could mean that investors will feel less urgency to reconfigure their portfolios and corporations will have less incentive to refinance. Already, one measure of tail activity has peaked, with Schwab client transactions tallying 34,100 a day in March, down from 40,000 in February. Street executives also doubt the low level of activity is sustainable. "We've got to be at a high part of a cycle," says one executive.

VOLATILE HISTORY. There are still believers out there. Janus' Marsico is holding his Merrill shares. Even in a weak market, he says, Merrill will earn stable fee-based income and can capitalize on opportunities overseas. "It should be good stock over a 12-month time frame," he says. PaineWebber Group Inc. is a favorite of Scott Offen, Fidelity Select Brokerage's fund manager, because its return on equity is as high as Merrill's, but it is selling far more cheaply.

The bulls also argue that long-term individuals will increase their investments in equities, including mutual funds. The figure is now 18% of household assets, vs. 36% at the 1968 peak, says Fidelity's Offen. "People will be saving in longer-dated financial assets rather than cash or their homes."

It's still possible that interest rates will unexpectedly dive yet again. But not, brokerage earnings will have a tough time going up from here.

By Leah Nathans Spiro in New York

BOOM TIME FOR BROKERS		
Company	Jan. 2, 1991	April 21, 1993
BEAR STEARNS	101%	197%
MERRILL LYNCH	201%	74%
MORGAN STANLEY	541%	62%
PAINEWEBBER	137%	36%
CHARLES SCHWAB	113%	32%
DATA: BRIDGE INFORMATION SYSTEMS INC.		

omon Inc., which he believes is undervalued due to trading losses in the first quarter. Lehman Brothers analyst Dean Eberling also thinks some brokers are getting pricey. He just removed Morgan Stanley & Co. from his buy list, while downgrading Bear Stearns and Charles Schwab to "neutral" and "underperform." Brokerage stocks have already sold off since first-quarter earnings announcements, with Schwab falling 16% since reporting record profits on Apr. 15.

MONEY SWITCH. It was a nice run while it lasted. Merrill's stock has more than tripled since 1991 (table), delighting the firm's biggest shareholder, Denver-based Janus Capital Corp., a large mutual-fund group. Janus portfolio manager Thomas Marsico started buying Merrill two years ago and estimates the stock has earned his funds some \$100 million. Another Merrill owner: the Fidelity Select Brokerage & Investment Management fund. It's up a neat 16.4% for 1993

Dewar's

PROFILE:

JAY CARPENTER

HOME:
Washington, D.C.

AGE
33.

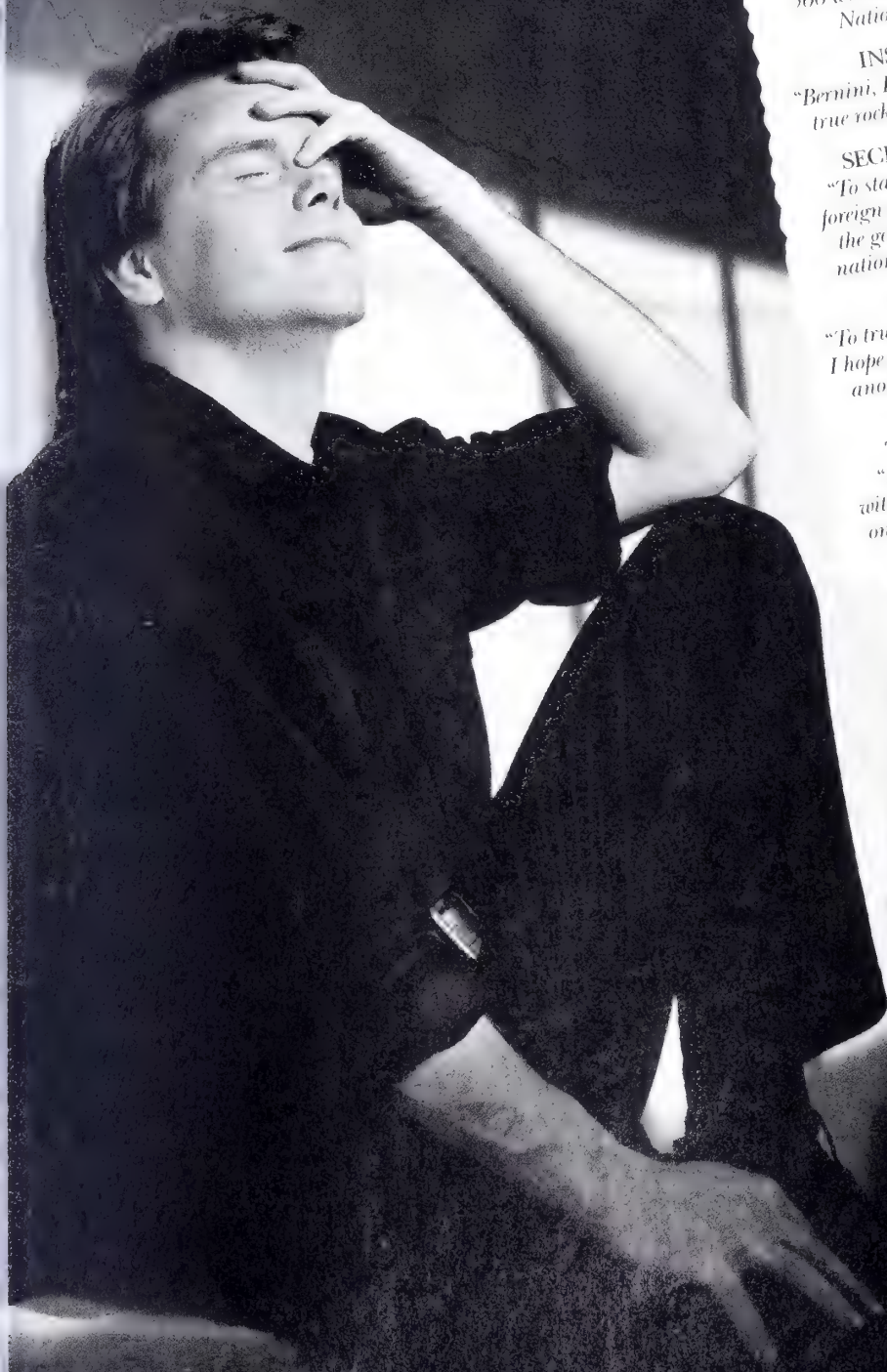
PROFESSION:
Sculptor. Completed nearly
500 works for the Washington
National Cathedral.

INSPIRATION:
"Bernini, Keith Richards and the
true rock of all men—my dad."

SECRET AMBITION:
"To stand on a podium in a
foreign country, as they give me
the gold medal and play our
national anthem, just for me."

FUTURE HOPE:
"To truly keep on loving what I do.
I hope I never adopt the attitude of
another day, another gargoyle."

FAVORITE TIME
TO ENJOY DEWAR'S:
"I guess it varies. After work,
with friends. You could say this is
one rule of mine that's definitely
not written in stone."



Commentary/by Dean Foust

IT'S TIME TO FREE THE FASB SEVEN

If accounting is the language of business, too many companies speak in the balance-sheet equivalent of Aramaic. Accounting standards change so slowly, they often seem relics from another era. At times, that can have dire consequences. During the 1980s, for instance, hundreds of troubled thrifts engaged in wild—and disastrous—speculation, yet their balance sheets seemed to be in the black. That's because accounting rules let

S&Ls book a debt security at its purchase price, masking how much it may have dropped in value. Only belatedly did taxpayers and shareholders learn about the multi-billion-dollar losses.

Many experts place the blame for the creaky pace of rule changes squarely on the obscure organization empowered by the Securities & Exchange Commission to make accounting policy: the 20-year-old Financial Accounting Standards Board. Sure, the Norwalk (Conn.) organization sometimes seems to have a ferocious bark. In 1991, it forced companies to book charges for their huge retiree health-benefits liabilities, and on Apr. 7, it voted to require them to deduct employee stock options from earnings. But FASB often takes a decade to go after the corporate ankle.

WIGGLE ROOM. The reason: FASB's board is kept on a short leash by corporate interests, which have too much influence over its funding and membership. "It's doubtful you're going to have a standards board dedicated to substantial change," says John C. Burton, former SEC chief accountant.

FASB's seven board members—usually retired accountants—began studying the stock-options and health-benefits proposals back in 1984 (table). And

FASB decisions often contain loopholes. On Apr. 13, FASB finally acted—under SEC pressure—to force banks and insurers to mark their debt instruments to current market value. Bowing to these institutions, however, FASB postponed making the requirement effective until 1997. It also gave banks and insurers wiggle room: If they claim they'll hold a bond until maturity, they can carry it at its purchase price.

Much of the heat comes from FASB

1980s, trustees voted to award Corporate America a second FASB seat. In 1990, they upped the number of board votes needed to approve a proposal from four votes to five—making it tougher for reform initiatives.

MAVERICK AXED. Pro-Big Business trustees often lobby FASB members aggressively. FASB Chairman Dennis J. Beresford admits this is a problem. "Sometimes, we have to educate [the trustees] as to what the limits of the

responsibilities are. Among the more blatant moves was the 1991 refusal to reappoint C. Arthur Northrop, a former IBM treasurer. Northrop frequently voted against executives of controversial issue. Says Paul B. Miller, an accounting professor at the University of Colorado: "The trustees were created to protect the board from pressure, but instead they have become the implement of pressure."

It's time to free the FASB Seven from this outside influence—beginning with their financial support. Corporations and their maiden accounting firms provide 35% of FASB's \$15 million annual budget. Critics contend that some executives have threatened to withhold support if FASB doesn't vote their way.

A good solution is to require the corporations filing documents with the SEC pay a small sum each time to create a permanent endowment for FASB. Another remedy: Shift board appointment power to the SEC. Together, these measures would make it easier to update accounting rules. And corporate reports at last would reflect current conditions, not ancient history.

Foust covers banking and financial regulation from Washington.

FASB'S LEISURELY RULEMAKING

RETIREE HEALTH BENEFITS Requires corporations to book today what they expect to spend on health care for retirees. First proposed in 1984. After years of intense opposition by corporations, FASB approved measure in 1991.

EXECUTIVE STOCK OPTIONS Review of how companies account for the value of stock options granted to key executives started in 1984. In April, 1993, FASB proposed that companies subtract the options' value from profits. Even if approved, rule wouldn't take effect until at least 1997.

JOINT VENTURES Study began in 1984 of whether a company with less than 50% interest in a joint venture should include venture's debts on its books. Still under review.

MARK TO MARKET In June, 1991, FASB began looking into proposal to require banks and other financial institutions to value fixed-income securities at current prices, rather than prices they originally paid. Under pressure from the Securities & Exchange Commission, FASB voted on Apr. 13 to make rule final in June.

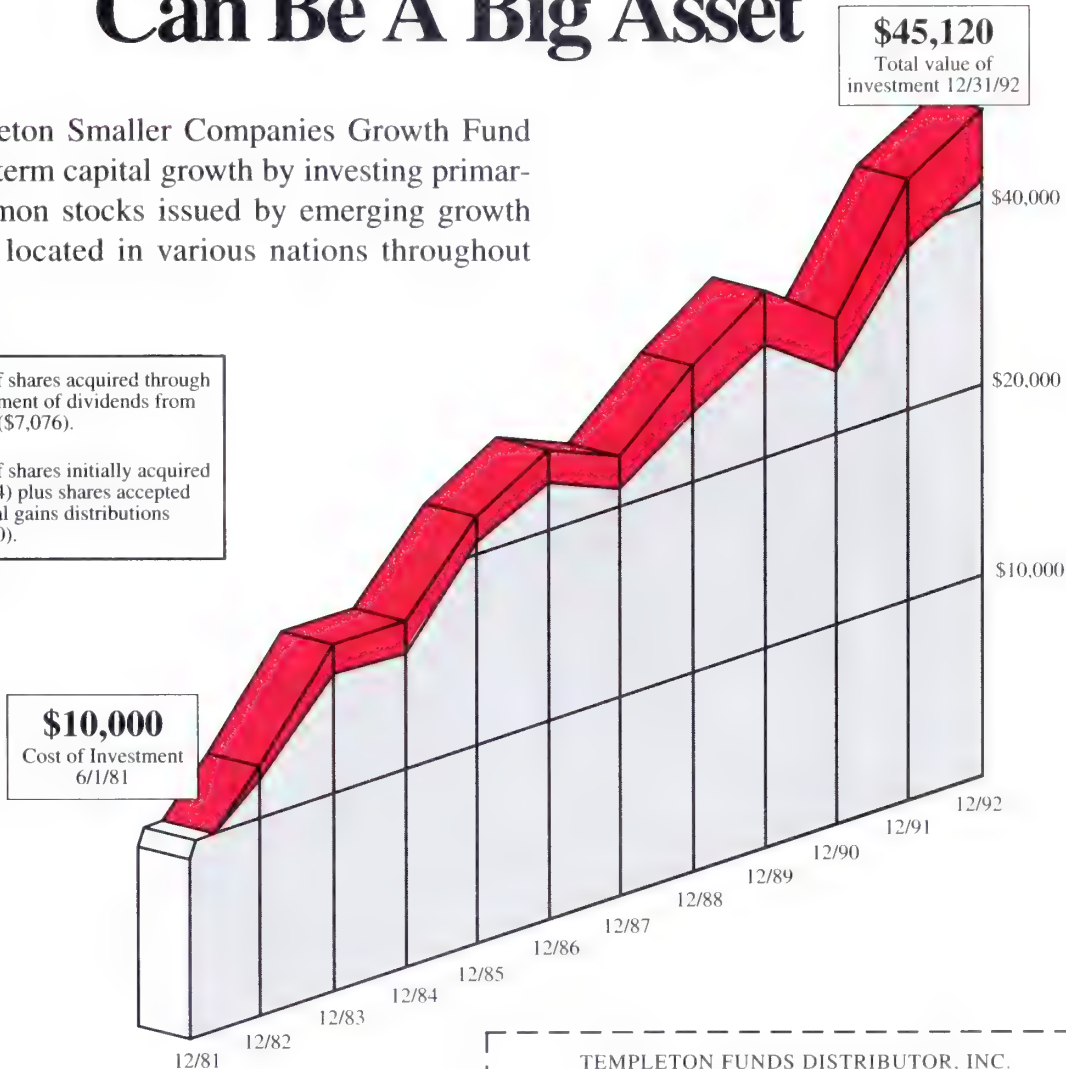
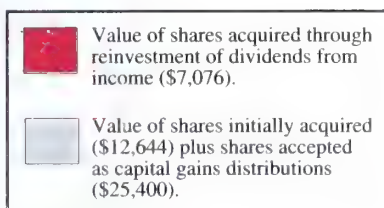
DATA: FINANCIAL ACCOUNTING STANDARDS BOARD, BUSINESS WEEK

trustees in the Financial Accounting Federation, which appoints FASB board members and approves its spending. Its 16 trustees are drawn from companies, accounting firms, government, and academe, but Corporate America is the most influential. In particular, the Business Roundtable, a group of CEOs from the biggest U.S. corporations, has pressed its party line on trustees. The Roundtable also urges accounting firms and consultants, who feed from the corporate trough, to provide self-serving expertise to FASB. In the mid-

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BY GENE G. MARCIAL

BIG PLAYERS ARE ZOOMING IN ON KODAK

The picture at Eastman Kodak these days seems peculiarly fuzzy, what with a new CFO, Chris Steffen, leading efforts to lift the company's unsteady profitability. But some big investors are quite clear on what they see: a new restructuring that will boost Kodak's stock.

Indeed, Kodak shares have not taken the downward spiral that shares of other large consumer-product companies—including Gillette and Coca-Cola—have experienced in recent months. The stock has been on the rise, trading near its 52-week high of 56¼ a share, up from 40 in late December.

What is behind this new optimism about the maker of photography products, drugs, chemicals, and imaging and information systems?

Whispers are that Kodak will break up its health-care business, which includes Sterling Drug, acquired in 1988 for \$5.1 billion.

EUROPEAN SUITOR? One investment pro believes that as part of a restructuring, Kodak will sell Sterling's prescription-drug unit to a European company. The health group's total earnings came to \$588 million, of which about \$410 million was from the prescription-drug unit. Other Sterling Drug products include over-the-counter medicines and household products.

NatWest Securities analyst Nicholas Heymann, who is bullish on Kodak, says it's likely that the company will sell parts of its health-care business. Three European companies, he says, are interested in Sterling's prescription-drug unit: Hoffmann-La Roche, whose product portfolio, says Heymann, fits well with Sterling's; Bayer, which needs, he believes, a U.S. structure similar to Sterling's; and Arese-rond, a pharmaceutical company in Zurich, which Heyman believes is looking for an acquisition in the U.S.

As to Sterling's over-the-counter medicines, Heymann says interested companies include Pfizer, American Home Products, and Ciba-Geigy.

Encouraged by new restructuring efforts, Heymann is looking at a target of 70 for Kodak shares over the next 12 months. "We believe that 100 would be a realistic target by early 1995," Heymann says, "when the full extent

A BRIGHTENING PICTURE FOR EASTMAN KODAK



of the company's efforts to improve shareholder value should become much more evident."

Analyst Alex Henderson at Prudential Securities says management is now well aware "that if it doesn't deliver on promises to boost earnings and the stock, the company's large shareholders will be out for a lynching." A Kodak spokesman declined comment.

A NEW ACT FROM VEGAS

Las Vegas Entertainment Network is gambling on a casino-hotel, and some investors are betting with the company. Shares of LVEN have been tracking up, from 2½ a share in late January to 3½ on Apr. 21. For a small, little-known Las Vegas company that's still very much in the red, that's a stupendous feat. What's going on?

A producer of Las Vegas-type television shows for TV networks overseas, LVEN will take quite a while to make a splash in the entertainment business. However, the likes of Liza Minnelli and Tina Turner performed in the company's first *Las Vegas Tonight* magazine-style program that aired last New Year's eve on France's prestigious France 3 channel. And other stars are expected to appear in upcoming shows, says the company.

But what's firing up LVEN's stock of late is the company's impending purchase of Maxim Hotel & Casino, a 795-room Las Vegas hotel with a 20,000 square-foot gambling casino. It produced revenues of some \$60 million last year, estimates Byron Lasky, LVEN co-chairman. Subject to approval

by the Nevada Gaming Assn., the deal is expected to be completed in the next several weeks, says George Carhart, chairman of Westfield Financial in New York, which makes a market for the stock. LEVN is buying Maxim from Jack Anderson, a Las Vegas entrepreneur, in a deal worth \$45 million in stock and cash, says Carhart.

The hotel-casino, he adds, will make LEVN profitable overnight. Maxim is expected to post revenues of \$70 million this year and pretax earnings of \$4 million to \$9 million. "If the deal fails to go through, watch out," warns one investor. But if it succeeds, he says, "the stock will hit the jackpot."

OUTBACK: LOSING ITS SIZZLE?

Lately, investors have been quite determined in dumping such high-growth stocks as Home Depot, Wal-Mart, and PepsiCo. Are there any more pricey market stars in danger of being shot down? Donald Zwyrer, a special-situations analyst at Salomon Brothers, is convinced that some of the hot restaurant stocks will be next. He is particularly wary of Outback Steakhouse, one of the Street's high-flying favorites.

Initially offered in 1991 at 5 a share, Outback has soared, to 32 in February. Now at 27, it's still enjoying a rich price-earnings ratio of 53.

Zwyrer ranks the stock a sell. Outback, which owns and operates 88 full-service steakhouses in Florida, Texas, and other Southern states, is "well managed and serves fine food," says Zwyrer. But he cautions that competition is stiff and costs are on the rise.

One worry is the soaring cost of beef which, the analyst says, has hit all-time highs. Red meat accounts for 20% of the company's operating costs, he notes. Moreover, the cost of labor may jump next year. Zwyrer says a 10% increase in the \$4.25 hourly minimum wage would crimp Outback's bottom line. He says that a 50¢ hourly rise would jack up the company's operating costs by \$4.4 million, or \$2.6 million after taxes. If that happens, he figures that Outback's 1994 net would drop 90¢ a share from an estimated \$1.

Another big worry: Corporate insiders, who own 10 million of the 25 million shares outstanding, may seek to cash in on the stock's high price. In the past two years, Outback has made three stock offerings. Another one, says Zwyrer, may be in the works.

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AMAZING WHAT BORROWING LOW AND LENDING HIGH WILL DO

An unusually wide interest-rate spread helped banks thrive in '92. But the party isn't likely to last

Rebounding sharply from a dismal 1991, the nation's largest banks found making money in 1992 as easy as withdrawing cash from an automatic teller machine. The chasm between banks' low short-term funding costs and their return from much higher-yielding long-term investments and loans virtually guaranteed a huge boost in profits. Net income for the 100 largest U.S. banks in BUSINESS WEEK's annual Bank Scoreboard (page 150) more than doubled, and return on equity followed suit. First-quarter 1993 results have been strong as well, with many companies reporting profits above most analysts' forecasts.

The good times, though, may not keep rolling. Spreads between short and long rates have been at record levels for longer than anyone has expected, and almost no one expects them to remain this wide for another year. That means the industry may not be able to sustain stellar earnings growth through the end of

1993 and into next year. "It's not possible to double and triple earnings several times in a row. The world doesn't work like that," says Diane Glossman, an analyst at Salomon Brothers Inc.

There's no question, though, that banks will long remember 1992. They were able to rake in gobs of net interest income in two ways. Most important, they borrowed short-term money at low rates and invested it in higher-yielding long-term securities. They also used their deposit accounts, for which they pay depositors around 3%, to make loans to consumers and small businesses, who typically paid more than the prime rate, currently 6%.

PRIME TIME. Take First Empire State Corp. The Buffalo bank pays customers 2.75% on a six-month CD these days and can borrow in the Fed funds market at 3%, but it can lend at the prime rate of 6%—or more. Gary S. Paul, senior vice-president and head of corporate finance, says the rates on about \$2 billion of First Empire's \$6.98 billion in loans are tied to the prime. Paul doesn't expect the wide spread to last forever—"it has shocked the heck out of me that it has lasted this long," he says—but he's enjoying it while he can. The lavish rate differential was the main reason his company's net interest income increased 30% in 1992, to \$438 million, he says. MBNA Corp., a bank specializing in credit-card loans spun off from MNC Financial Inc., has been the most profitable of the nation's big banks for two years in a row because of the lofty rates it has been able to charge credit-card customers. MBNA's return on equity has been 28.5% for two years running.

First Union Corp. also generated net interest income gains of nearly 15%, even excluding the effect of acquisitions in 1992, according to treasurer Ken R. Stancliff. As at First Empire, a lot of First Union's gain was because of the wide spread between lending rates and borrowing costs. But First Union also benefited from its use of derivatives to increase the effective maturity of its assets. That let the bank reap the benefits of a decline in the cost of its borrowing while its lending and investing rates remained high.



STEADIEST EARNERS

Average five-year growth in earnings per share

MERCANTILE BANKCORPORATION	94.2%
REPUBLIC NEW YORK	62.3
BANK OF BOSTON	45.9
FIRST FIDELITY BANKCORPORATION	44.6
INDUSTRIAL BANK OF JAPAN TRUST	38.8
J. P. MORGAN	31.5
MELLON BANK	31.1
UNION PLANTERS	24.8
FIRST COMMERCE	23.6
FIRST EMPIRE STATE	20.7
100-BANK AVERAGE	-0.9

Bank of Tokyo Trust Co. was the less profitable of the big banks, generating a return on equity of -9.5% and losing some \$44.8 million. The company continued to suffer from the bank-lending spree of the late 1980s: Its loan-loss provision increased 62%, to \$164.7 million. Charge-offs represented 2.6% of the bank's loans.

For many banks, however, credit quality improved. Nonperforming assets averaged just 2.5% of loans, down from 3.3% a year earlier, and loan-loss provisions declined an average of 19%. That's a big change from 1991, when loan-loss provisions grew 13%. Bank of New York Co. was a prime beneficiary of improving credit quality. The bank took its a little earlier than many other banks did. As a result, its loan-loss provision declined 43%, to \$427 million in 1992, and charge-offs shrunk from 2% of loans to 1.8% of loans. Those facts helped the bank triple its net income to \$369 million.

Most banks on the two coasts showed



MOST PROFITABLE

1992 return on equity

MBNA	28.5 %
BANKERS TRUST NEW YORK	23.1
FIRST COMMERCE	22.9
WILMINGTON TRUST	21.5
MELLON BANK	21.1
J. P. MORGAN	20.8
NORWEST	19.2
INTEGRA FINANCIAL	19.0
EUROPEAN AMERICAN BANK	18.8
NORTHERN TRUST	18.7
100-BANK AVERAGE	13.1

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.

matic improvements in profitability credit quality. Chemical Banking p. booked a 605% increase in earnings after taking a \$625 million restructuring charge in 1991. Boston's BayBanks Inc. reported a 514% increase in income, the second biggest gain. Chairman and CEO William M. Crozier says the results are "nothing to crow about because we're coming off such a base." But he thinks the bank's operating profits will improve as spreads remain high and the costs of managing assets decline.

LY SIGN. Citicorp, the nation's largest bank, went from losing \$914 million in 1991 to earning \$722 million last year and \$370 million in the first quarter of 1993. The bank has reduced operating expenses, and while its credit costs remain close to record levels, they are improving.

and in California, First Interstate Corp posted profits of \$282.3 million after reporting a loss in 1991. Like Bank New York, First Interstate began lending with problem loans before any of its competitors, and it's now benefiting from the early action. Its



SAFEST LENDERS

1992 nonperforming assets as percent of assets	
UNITED MISSOURI BANCSHARES	0.2%
STATE STREET BOSTON	0.3
WEST ONE BANCORP	0.4
COMMERCE BANCSHARES	0.5
REPUBLIC NEW YORK	0.5
TRUSTMARK	0.5
NORWEST	0.5
FIFTH THIRD BANCORP	0.5
FIRST VIRGINIA BANKS	0.5
J. P. MORGAN	0.5
100-BANK AVERAGE	2.5

loan-loss provision was down 61%, to \$314 million.

The improving health of the industry is an early sign of a long-term trend, says David S. Berry, director of research at Keefe, Bruyette & Woods. Investors have long viewed bank earnings as less dependable than those of, say, consumer-products companies, he says. But "consolidation should lead to less overcapacity, so there will be less incentive [for banks] to go out and make risky loans."

Berry may well be right. But after striving mightily to pare expenses in the last two years, BayBanks and others are starting to hire again. And lending is still meager: Loans grew just 2% in 1992 and declined as a portion of banks' assets. What's more, low interest rates are cutting into bank revenues. If banks start letting their operating costs rise before they've boosted their lending or otherwise assured themselves of higher revenues, they can be almost sure that they won't enjoy a repeat of 1992's rebound anytime soon.

By Kelley Holland in New York, with Chuck Hawkins in Atlanta and Geoffrey Smith in Boston

WHAT THE COLUMN HEADINGS MEAN

Market value

Using share price of a bank's common stock Mar. 31, 1993, multiplied by the corporation's latest available number of common shares outstanding.

Assets

Total assets as of Dec. 31, 1992.

Deposits

Total deposits as of Dec. 31, 1992. Interest-bearing deposits and noninterest-bearing deposits together will total 100%. Foreign deposits subtracted from 100% will equal domestic deposits.

Loans

Aggregate face value of all outstanding loans and leases as of Dec. 31, 1992, net of unearned income and before deduction of valuation portion of loan-loss reserves.

Provision for loan loss

Charge for anticipated loan losses, which appears on the income statement as an operating expense.

Net income

Net income after minority interests and taxes.

Net charge-offs as percent of loans

Loan charge-offs less recoveries as percent of net average loans outstanding. A minus sign indicates that recoveries exceed charge-offs.

CRE

Commercial real estate loans as a percent of total loans outstanding.

HLT

Highly leveraged transactions as a percent of total loans outstanding.

NPA

Nonperforming assets, including real estate owned, as a percent of total assets.

Operating income

Operating income after minority interests and taxes but before preferred dividends, and gains and losses from the sale of securities.

Return on assets

Net income available for common shareholders (net income minus preferred dividends) divided by average assets.

Leverage

Average assets divided by average common equity computed on a daily average basis for the year ended Dec. 31, 1992.

Return on equity

Net income available for common shareholders divided by average common equity for the year ended Dec. 31, 1992. Return on average assets multiplied by leverage equals return on average common equity.

Net interest income

Total interest income adjusted for tax equivalents minus total interest expense before provision for loan losses.

Growth in earnings per share

Annual trend in the growth rate of primary earnings per share for the restated five-year period ended Dec. 31, 1992.

Dividend yield

Annual dividend as a percent of Mar. 31, 1993, stock price.

ALPHABETICAL LIST OF BANKS

Number following each bank's name is its asset ranking in the tables beginning on the next page

th Bancorp 58	BB&T Financial 76	Deposit Guaranty 90	First Interstate Bancorp 12	Industrial Bank of Japan 88	Michigan National 53	Republic New York 19	SunTrust Banks 20
ne 8	Boatmen's Bancshares 32	European American 80	First Maryland Bancorp 62	Integra Financial 52	Midlantic 42	Riggs National 87	Synovus Financial 86
o Hawaii 48	Central Bancshares 74	Fifth Third Bancorp 55	First of America Bank 36	KeyCorp 27	MNC Financial 38	Sanwa Bank 71	Trustmark 99
Boston 22	Central Fidelity 63	First Alabama Banc 66	First Security 69	LaSalle National 54	Morgan (J P) 5	Shawmut National 28	UJB Financial 44
New York 17	Chase Manhattan 6	First American 75	First Tennessee National 61	Liberty National 94	National City 25	Signet Banking 51	Union Bank 39
Tokyo 65	Chemical Banking 3	First Bank System 31	First Union 11	Marine Midland Banks 37	National Community 98	Society 29	Union Planters 85
outh 95	Citicorp 1	First Chicago 13	First Virginia Banks 73	Marshall & Wainwright 67	National Westminster 33	Southern National 92	United Missouri 89
merica 2	Comerica 26	First Citizens Banc 83	Firstar 45	MBNA 78	NationsBank 4	SouthTrust 47	U.S. Bancorp 35
Trust 7	Commerce Bancshares 70	First Commerce 79	Fleet Financial Group 14	Mellon Bank 23	NBD Bancorp 16	Star Banc 68	Valley Bancorp 96
ce 56	Continental Bank 34	First Empire/State 59	Fourth Financial 81	Mercantile Bancorp 60	Northern Trust 41	State Street Boston 40	Wachovia 21
Banks 18	CoreStates Financial 30	First Fidelity Bancorp 24	Harris Bankcorp 46	Mercantile Bankshares 82	Norwest 15	Sumitomo Bank of Cal 84	Wells Fargo 9
ks 57	Crestar Financial 49	First Hawaiian 77	Hibernia 91	Meridian Bancorp 50	Old Kent Financial 64	Summit Bancorp 100	West One Bancorp 72
	Dauphin Deposit 93		Huntington Bancshares 43		PNC Bank 10		Wilmington Trust 97

BANKS C

		ASSETS		DEPOSITS			LOANS					CRE %
		12/31/92 \$ MIL.	12/31/92 \$ MIL.	CHG. FROM 1991 %	INTEREST/ NONINT. %	FOR- EIGN %	12/31/92 \$ MIL.	CHG. FROM 1991 %	LOAN- LOSS PROV. 1992 \$ MIL.	CHG. FROM 1991 %	NET CHARGE- OFFS AS % OF LOANS	
1	CITICORP	213701	144175	-2	87/13	60	139710	-7	4146.0	7	2.4	6.6
2	BANKAMERICA	180646	137883	47	75/25	10	124523	44	990.0	23	1.2	12.6
3	CNEMICAL BANKING	139655	94173	1	76/24	21	82010	-3	1365.0	1	1.8	9.9
4	NATIONSBANK	118059	82727	-6	79/21	2	72714	5	714.5	-55	1.3	12.9
5	J. P. MORGAN	102941	32519	-12	88/12	82	26438	-5	55.0	38	0.8	NA
6	CHASE MANHATTAN	95862	67224	-6	79/21	39	62558	-8	1220.0	12	2.0	10.8
7	BANKERS TRUST NEW YORK	72448	25071	10	83/17	59	17318	2	225.0	-5	2.5c	8.5
8	BANC ONE	61417	48465	1	79/21	0	38722	7	510.5	2	1.3	9.1
9	WELLS FARGO	52537	42244	-3	78/22	0	36903	-16	1215.0	-9	2.0	54.0
10	PNC BANK	51380	29470	-2	80/20	1	25817	1	323.5	-24	1.2	11.0
11	FIRST UNION	51327	39390	8	80/20	1	33367	4	249.7	-48	0.7	17.8
12	FIRST INTERSTATE BANCORP	50863	43675	5	67/33	1	24201	-14	314.3	-61	1.9	17.1
13	FIRST CHICAGO	49281	29740	-7	75/25	28	22692	-12	916.0	108	1.5	10.7
14	FLEET FINANCIAL GROUP	46938	32735	-7	79/21	2	26647	-3	485.8	-4	2.1	17.7
15	NORWEST	44557	26970	2	76/24	1	27656	19	176.9	-46	0.8	10.3
16	NBD BANCORP	40937	31001	5	78/22	6	25144	6	228.5	37	0.8	9.8
17	BANK OF NEW YORK	40909	29449	2	74/26	29	27391	-2	427.0	-43	1.8	6.7
18	BARNETT BANKS	39465	34689	2	83/17	0	26051	-1	257.3	-43	1.0	17.1
19	REPUBLIC NEW YORK	37146	21102	4	94/6	51	8007	-7	120.0	94	1.2	26.3
20	SUNTRUST BANKS	36649	28843	3	76/24	0	22797	6	220.0	7	0.7	23.4
21	WACHOVIA	33367	23375	2	76/24	2	21086	2	119.4	-59	0.5	17.0
22	BANK OF BOSTON	32346	25302	2	82/18	20	22884	4	100.0	-70	0.9	13.5
23	MELLON BANK	31574	25130	12	78/22	4	19956	4	185.0	-26	1.6	9.3
24	FIRST FIDELITY BANCORPORATION	31480	27005	7	80/20	1	18378	6	228.0	-23	1.5	19.2
25	NATIONAL CITY	28963	22585	-1	79/21	2	18738	-2	129.4	-48	0.7	13.1
26	COMERICA	26587	20395	0	79/21	4	17808	5	113.4	10	0.6	14.4
27	KEYCORP	25457	21004	10	82/18	0	17201	10	150.8	-1	0.9	18.7
28	SHAWMUT NATIONAL	25288	16410	-1	72/28	1	15326	5	189.5	-59	2.5	21.8
29	SOCIETY	24978	18658	-7	80/20	6	16202	-4	147.4	-47	1.1	18.9
30	CORESTATES FINANCIAL	23699	17262	2	66/34	4	15470	-2	119.3	-37	0.9	17.7
31	FIRST BANK SYSTEM	23527	18543	12	72/28	0	15054	5	164.4	3	1.3	9.8
32	BOATMEN'S BANCSHARES	23387	18988	9	79/21	0	12632	6	134.6	19	0.8	19.4
33	NATIONAL WESTMINSTER BANCORP	22715	16745	-1	77/23	11	14139	0	122.0	-79	1.5	13.8
34	CONTINENTAL BANK	22467	14144	-10	79/21	20	12411	-11	125.0	-63	1.2	8.4
35	U. S. BANCORP	20741	15425	16	77/23	0	14270	-1	134.5	7	0.8	12.4
36	FIRST OF AMERICA BANK	20147	18036	3	86/14	0	13756	4	78.8	11	0.6	20.7
37	MARINE MIDLAND BANKS	17109	13107	-3	76/24	2	10433	-6	73.2	-68	1.3	12.1
38	MNC FINANCIAL	16985	11650	-16	80/20	2	8938	-14	156.7	-63	4.0	32.6
39	UNION BANK	16844	12854	-2	63/37	4	12580	-5	156.0	-22	1.2	19.3
40	STATE STREET BOSTON	16490	11060	27	60/40	40	2004	5	12.2	-80	1.0	5.2
41	NORTHERN TRUST	14960	9871	15	73/27	19	6936	10	29.5	-5	0.5	7.4
42	MIDLANTIC	14422	12560	-22	78/22	0	8954	-28	137.9	-78	2.7	38.1
43	HUNTINGTON BANCSHARES	13895	9953	5	83/17	3	8512	3	75.7	34	0.7	15.8
44	UJB FINANCIAL	13771	11787	4	78/22	0	8782	0	139.0	-17	1.8	23.9
45	FIRSTAR	13169	10884	8	74/26	1	8111	8	44.8	-11	0.4	22.2
46	HARRIS BANCORP	12729	8777	-7	66/34	17	7083	-10	77.6	-2	1.0	8.8
47	SOUTHTRUST	12714	10082	22	84/16	1	7547	27	43.3	14	0.5	26.9
48	BANCORP HAWAII	12713	7890	-9	83/17	15	6820	3	50.1	69	0.6	17.8
49	CRESTAR FINANCIAL	12675	9582	8	79/21	0	6949	-4	99.2	-53	1.8	20.2
50	MERIDIAN BANCORP	12208	10172	8	84/16	0	7378	0	59.7	-40	1.1	22.5

(a) Yearend amounts. (b) Data are for banking operations only. (c) Loans are net of unearned income only. (d) Income not adjusted for securities gains and losses. (e) Not adjusted for tax equi

E B O A R D

PERFORMANCE

MARKET VALUE

OPER. INCOME 1992 \$ MIL.	NET INCOME 1992 \$ MIL.	CHG. FROM 1991 %	RETURN ON ASSETS 1992 %	LEVER- AGE 1992	RETURN ON EQUITY 1992 %	NET INTEREST INCOME 1992 \$ MIL.	CHG. FROM 1991 %	NET INCOME AS % OF NET INT. INCOME	5-YEAR AVER. GROWTH EPS %	DIVIDEND YIELD	3/31/93 \$ MIL.	CHG. FROM 1992 %	RANK
716.0	722.0	NM	0.23	28.8	6.6	7476	3	9.7	-23.5	0.00	10811	80	5
1485.0	1492.0	33	0.80	15.9	12.7	6740	50	22.1	11.5	2.79	17517	80	1
1033.0	1086.0	605	0.67	18.4	12.4	4629	12	23.5	-44.8	3.27	10140	21	6
941.2	1145.2	467	0.97	16.2	15.8	4190	6	27.3	-7.1	2.93	13820	26	2
1126.0	1382.0	21	1.14	18.3 _a	20.8_a	1869	13	73.9	31.5	3.54	13006	19	4
626.0	639.0	23	0.51	21.7	11.2	3603	6	17.7	NA	3.44	5444	63	15
761.0 _d	761.0	14	0.99	23.4	23.1	1199	56	63.5	1.5	4.36	5925	31	12
772.7	781.3	32	1.31	12.4	16.3	3240	41	24.1	12.9	2.42	13403	58	3
283.0	283.0	NM	0.45	17.7	7.9	2696	6	10.5	-14.3	1.84	5995	65	11
388.1	529.4	36	1.18	13.2	15.5	1700	14	31.1	-0.4	3.42	7762	46	7
513.8	515.2	62	1.01	15.1	15.3	2100	33	24.5	5.0	2.93	6793	57	9
283.4	282.3	NM	0.46	21.2	9.6	2032	-4	13.9	15.0	2.04	4417	95	18
-248.7	-114.5	NM	-0.29	20.0	-5.8	1217	9	-9.4	NM	2.88	3427	68	26
156.5	279.8	187	0.56	19.7	11.0	1983	37	14.1	-14.4	2.54	4801	41	16
480.0	518.4	23	1.21	15.8	19.2	2045	17	25.4	16.5	2.33	6987	39	8
337.2	338.0	-7	0.85	13.8	11.8	1591	11	21.2	6.9	3.06	5654	25	14
341.0	369.0	202	0.80	14.9	12.0	1286	1	28.7	1.1	2.63	4670	69	17
185.1	207.7	155	0.50	16.5	8.3	1734	11	12.0	-19.6	2.93	4349	48	20
251.5	258.9	14	0.68	20.7	14.2	753	23	34.4	62.3	2.10	2681	26	32
409.7	413.3	12	1.21	13.1	15.8	1584	11	26.1	8.1	2.40	5822	26	13
432.2	433.2	89	1.36	12.3	16.7	1334	6	32.5	5.6	2.93	6323	26	10
176.7	192.1	NM	0.54	19.6	10.6	1095	19	17.5	45.9	0.36	2362	76	37
331.0	437.0	56	1.30	16.2	21.1	1166	16	37.5	31.1	2.50	3567	82	25
306.2	313.7	42	0.99	16.1	16.0	1248	13	25.1	44.6	2.71	3613	45	24
372.6	346.9	47	1.16	13.2	15.3	1195	1	29.0	9.7	3.98	4132	31	21
222.8	226.0	-17	0.87	13.4	11.7	1123	6	20.1	16.8	3.09	3791	20	23
243.3	245.6	31	1.17	15.1	17.7	1132	22	21.7	17.7	2.77	4408	103	19
18.5	56.8	NM	0.23	18.7	4.3	841	11	6.8	NA	1.74	2128	86	38
294.8	301.2	294	1.24	14.2	17.5	1158	7	26.0	2.5	3.23	4042	26	22
253.6	262.4	15	1.17	13.8	16.3	1085	-3	24.2	13.7	3.72	3388	39	27
274.9	124.1	-37	0.46	13.7	6.3	868	9	14.3	NA	3.17	2960	40	30
194.5	215.5	31	0.96	13.0	12.5	883	17	24.4	9.7	3.67	2945	40	31
131.4	91.8	NM	0.41	12.5	5.2	759	4	12.1	NA	5.45	NM*	NM	NR
224.0	222.0	NM	0.85	18.3	15.6	493	0	45.0	-15.2	2.15	1505	66	45
207.5	208.1	9	1.04	13.8	14.4	897	10	23.2	12.7	3.00	2514	18	34
137.6	169.5	6	0.80	16.9	13.6	900	15	18.8	7.0	3.30	2416	47	36
13.8	109.2	NM	0.63	15.8	9.9	695	1	15.7	NA	NA	NM*	NM	NR
45.8	103.1	NM	0.58	18.1	10.4	532	6	19.4	-15.8	0.00	1289	87	53
98.9	102.6	10	0.56	17.2	9.6	751	-3	13.7	-3.0	3.66	1240	74	55
153.3	160.4	15	1.04	17.5	18.1	296	1	54.2	13.6	1.08	3340	42	28
147.3	149.5	17	1.06	17.6	18.7	344	8	43.5	4.6	1.49	2622	52	33
-45.7	7.0	NM	0.02	22.8	0.5	530	-20	1.3	-58.5	0.00	1009	248	65
150.9	139.0	19	1.08	14.4	15.5	622	26	22.4	13.0	2.95	1881	34	40
41.8	53.8	140	0.39	16.3	6.3	557	8	9.7	-24.2	2.21	1380	66	50
165.3	166.0	24	1.33	13.1	17.4	571	11	29.1	6.9	2.60	2122	36	39
110.6	113.3	9	0.86	14.8	12.7	477	2	23.7	17.9	NA	NM*	NM	NR
113.8	114.2	27	1.04	15.1	15.7	469	25	24.4	9.0	2.84	1589	57	41
114.5	116.8	4	1.00	14.8	14.9	445	8	26.3	11.8	2.45	1480	14	48
77.4	79.8	136	0.65	15.0	9.7	498	12	16.0	-7.0	2.35	1541	117	43
113.7	114.7	7	0.99	13.6	13.4	512	13	22.4	4.3	3.64	1504	34	46

available. NM = not meaningful. NR = not ranked. *Due to management structure.

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC., KEEFE, BRUYETTE & WOODS INC.



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BANKS C

ASSETS DEPOSITS LOANS

	12/31/92 \$ MIL.	12/31/92 \$ MIL.	CHG. FROM 1991 %	INTEREST/ NONINT. %	FOR- EIGN %	12/31/92 \$ MIL.	CHG. FROM 1991 %	LOAN- LOSS PROV. 1992 \$ MIL.	CHG. FROM 1991 %	NET CHARGE- OFFS AS % OF LOANS	CRE %
	12093	7823	-8	82/18	0	5809	-1	67.8	-76	2.5	20.3
	10788	8149	13	88/12	0	5213	24	45.6	29	0.5	12.6
	10635	8975	4	80/20	0	6731	2	70.7	-18	0.8	20.7
	10324	7155	12	80/20	3	5849	18	54.7	17	0.6a, c	18.7
	10213	7532	13	83/17	1	7475	29	65.3	17	0.7	10.8
	10002	8039	12	80/20	0	5252	1	97.6	-20	1.6	6.1
	9907	8993	3	78/22	0	5950	-6	106.8	-35	2.1	17.2
	9751	7429	1	82/18	0	5992	8	36.6	-12	0.5	17.6
	9588	8077	8	87/13	1	6984	16	85.0	34	0.7	39.7
	9476	7532	16	83/17	0	5900	9	60.6	22	1.1	21.4
	8926	6917	2	79/21	NA	4522	2	43.2	-20	0.8	11.0
	8850	6819	-2	74/26	2	5325	-8	55.7	-19	1.1	23.0
	8712	6672	29	88/12	0	3953	9	99.8	100	1.6	27.8
	8699	7254	-1	86/14	3	4908	-4	57.7	45	0.5	27.2
	8456	5113	-11	86/14	74	5551	19	164.7	62	2.6	10.4
	7881	6701	13	84/16	0	5342	22	27.1	13	0.3	22.6
	7850	6212	1	74/26	0	4879	2	15.2	-26	0.1	19.1
	7715	6403	18	82/18	0	4933	2	40.9	2	0.8	20.2
	7608	5685	7	80/20	0	4992	5	29.9	-34	0.5	14.0
	7542	6459	10	80/20	0	3687	11	19.1	1	0.2	15.7
	7282	5577	4	77/23	17	5097	4	78.4	82	1.2	26.8
	7134	5636	39	80/20	0	4532	30	14.3	-52	0.3	18.6
	6841	6014	12	83/17	0	3842	9	17.4	24	0.4	12.1
	6736	5105	7	79/21	0	4441	18	50.0	37	0.6	20.2
	6716	5522	4	80/20	0	3699	-3	38.5	-25	1.1	11.8
	6691	5346	3	87/13	2	4525	7	29.0	-24	0.5	29.3
	6553	5088	-5	79/21	4	4396	2	12.8	25	0.3	26.3
	6455	4569	-10	98/2	2	3979	14	97.5	12	3.0	0.0
	6124	5079	17	79/21	0	2239	-2	22.0	-50	0.7	20.2
	5638	4428	3	71/29	2	1926	1	36.6	-13	1.6	17.1
	5613	4511	8	81/19	0	2229	-3	15.5	-55	0.8	12.8
	5460	4517	6	80/20	0	3489	3	45.3	117	0.7	26.7
	5414	4817	0	85/15	0	3208	3	17.5	12	0.4	11.6
	5399	4848	2	92/8	24	4628	2	57.0	22	1.2	77.4
	5262	4450	39	86/14	NA	2315	19	18.6	-25	0.9	16.5
	5184	4405	4	85/15	0	3648	8	30.5	14	0.7	NA
	5079	4438	-10	80/20	15	2138	-29	46.8	8	2.6	23.4
	5047	1867	-28	97/3	90	2305	-6	29.8	1	0.7	13.4
	5003	3843	13	73/27	0	1483	10	3.0	-51	0.4	9.5
	4994	4002	-2	77/23	0	2242	-3	10.4	-40	1.1	23.8
	4734	4036	-24	81/20	0	2360	-37	66.3	-63	2.7	32.8
	4598	3791	18	87/13	0	2822	18	14.4	-23	0.5	9.1
	4573	3401	2	88/12	0	2195	0	10.9	5	0.3	24.0
	4566	3761	4	80/20	1	3221	9	26.6	4	0.8	18.3
	4464	3632	0	77/23	0	2658	-4	31.0	-58	1.5	31.3
	4384	3833	11	86/14	0	3056	16	8.4	0	0.2	28.2
	4285	3274	-4	84/16	0	2997	-1	13.0	-17	0.4	25.0
	4182	3812	4	68/32	0	2211	-10	16.1	-49	1.0	30.4
	4085	3197	1	82/18	0	1906	1	24.1	-5	0.8	19.8
	4059	3577	7	82/18	0	2478	-1	23.5	2	0.9	28.0
(ns)	2491.7	1765.1	3	79/21	15	1448.5	2	19.7	-19	1.4	15.6

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E B O A R D

PERFORMANCE

MARKET VALUE

OPER. INCOME 1992 \$ MIL.	NET INCOME 1992 \$ MIL.	CHG. FROM 1991 %	RETURN ON ASSETS 1992 %	LEVERAGE 1992	RETURN ON EQUITY 1992 %	NET INTEREST INCOME 1992 \$ MIL.	CHG. FROM 1991 %	NET INCOME AS % OF NET INT. INCOME	5-YEAR AVER. GROWTH EPS %	DIVIDEND YIELD	3/31/93 \$ MIL.	CHG. FROM 1992 %	RANK
99.2	109.2	NM	0.98	14.5	14.2	455	8	24.0	15.6	2.17	1546	92	42
76.4	113.4	62	1.16	16.4	19.0	383	26	29.6	9.0	2.75	1538	75	44
59.8d	59.8	19	0.56	13.5	7.6	428	3	14.0	-11.1	3.33	894	23	72
88.2	92.7	8	0.71	23.6	16.7	369	17	25.1	NA	NA	NM*	NM	NR
163.1	164.1	19	1.75	9.9	17.4	411	17	39.9	13.0	1.75	3276	20	29
84.9	85.1	32	0.89	14.2	12.7	536	10	15.9	5.3	2.74	955	34	69
14.8	59.2	514	0.63	17.6	11.1	421	5	14.1	-21.3	0.40	928	103	70
99.0	102.0	27	1.11	12.2	13.6	395	16	25.8	6.1	3.52	1326	25	51
81.9	97.9	46	0.99	17.6	17.4	438	30	22.4	20.7	1.07	1024	25	64
83.9	85.0	28	0.94	14.7	13.7	371	24	22.9	94.2	2.85	1206	68	58
89.2d	89.2	22	1.07	14.4	15.4	331	15	27.0	NA	3.33	1216	26	56
88.7	92.5	23	1.03	13.8	14.2	375	20	24.7	NA	NA	NM*	NM	NR
78.5	78.5	30	1.06	14.7	15.5	305	20	25.7	10.4	3.25	1182	51	59
107.3	111.1	19	1.27	12.8	16.2	394	13	28.2	7.4	3.03	1390	35	49
-44.8d	-44.8	NM	-0.48	19.6	-9.5	138	-7	-32.6	NA	NA	NM*	NM	NR
95.1	95.0	21	1.34	11.6	15.6	323	17	29.4	10.7	2.71	1300	36	52
111.7	116.6	17	1.56	10.5	16.3	319	5	36.6	12.1	2.11	1502	35	47
75.2	76.1	16	1.05	12.7	13.3	313	14	24.3	8.9	3.07	1103	36	60
86.3	86.6	45	1.20	11.8	14.1	338	20	25.7	17.1	2.67	1091	24	61
64.5	71.7	20	1.04	12.4	12.9	250	11	28.6	11.8	1.66	1001	44	66
12.7	15.8	-55	0.22	11.7	2.5	285	6	5.5	NA	NA	NM*	NM	NR
62.3	63.4	54	1.08	13.8	14.9	252	20	25.2	20.0	2.41	833	55	73
97.5	97.5	40	1.50	11.4	17.1	329	24	29.6	8.4	2.76	1211	47	57
73.9	74.4	21	1.12	14.7	16.6	307	23	24.2	16.9	3.04	902	38	71
43.8	42.0	148	0.65	15.5	10.0	256	15	16.4	-4.1	1.36	761	50	75
72.5	76.1	26	1.18	12.3	14.5	285	19	26.7	8.8	2.95	962	43	68
86.8	86.9	6	1.33	12.4	16.5	276	5	31.5	15.5	3.70	983	17	67
172.7	172.7	16	2.96	9.6	28.5	359	49	48.1	18.3	3.92	2426	22	35
72.3	72.5	113	1.19	19.2	22.9	242	21	30.0	23.6	2.67	733	58	76
52.5	36.4	437	1.12	16.8	18.8	223	16	16.3	NA	NA	NM*	NM	NR
53.5	53.2	110	0.98	14.1	13.8	202	8	26.3	3.8	3.07	684	20	77
60.3	76.3	8	1.45	9.2	13.3	232	9	32.8	7.0	2.55	1076	28	63
50.2	51.8	77	0.98	17.2	16.8	221	24	23.4	15.0	1.11	519	81	87
28.1	31.5	-26	0.60	16.2	9.8	225	1	14.0	8.0	5.42	253	22	91
33.2	41.4	51	0.74	18.4	13.7	200	24	20.7	24.8	2.48	487	94	88
61.8	61.2	26	1.22	12.7	15.5	196	-15	31.3	9.2	1.30	1269	45	54
-40.0	-19.8	NM	-0.38	20.0	-7.5	144	-11	-13.7	NM	0.00	268	42	90
16.9	16.9	-25	0.39	9.4	3.7	69e	-6	24.6	38.8	NA	NM*	NM	NR
35.9	39.4	0	0.85	12.0	10.2	137	0	28.8	5.5	2.01	548	2	84
45.6	45.5	41	0.95	15.1	14.4	175	8	26.0	7.2	2.80	541	93	85
-25.1	-7.9	NM	-0.16	24.0	-3.7	203	-18	-3.9	NM	0.00	628	406	79
50.1	50.1	63	1.06	15.5	16.4	201	31	24.9	12.0	2.74	552	54	83
54.6	57.2	8	1.32	10.7	14.1	168	8	34.1	5.9	2.99	796	64	74
44.1	45.6	21	1.06	12.9	13.6	180	14	25.3	6.8	2.59	652	20	78
22.8	28.3	NM	0.63	16.2	10.1	171	-3	16.6	-6.2	0.29	570	87	81
39.1	39.8	30	0.98	13.7	13.3	173	15	23.0	8.4	3.14	580	45	80
77.3	78.8	8	1.90	11.3	21.5	177	4	44.4	11.2	3.10	1081	21	62
23.8	23.8	92	0.57	17.8	10.2	177	3	13.4	-22.3	1.31	569	176	82
36.4	38.3	39	0.97	14.0	13.6	166	17	23.1	5.7	2.46	447	49	89
28.9	29.4	39	0.73	13.4	9.8	167	9	17.6	-10.6	3.68	539	62	86
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SOFTWARE TO CARRY YOU THROUGH THE EXPORT THICKET

When it comes to red tape, the tangled process of exporting wins a blue ribbon. Shipping goods overseas requires filling out so many forms, complying with so many regulations, and dealing with so many people who may not speak your language that thousands of small companies throw up their hands—and stick solely with U.S. customers. "A lot of companies have avoided exporting because they think it's too much hassle," says Robert Windsor, executive director of the National Committee on International Trade Documentation (NCITD), an Alexandria (Va.) group that helps people get through the export maze.

Despite the headaches, it is possible for neophytes to figure out the complexities of exporting. The best route is computer software that automatically generates forms, assures compliance with regulations, and keeps tabs on overseas customers.

SMALL PACKAGES. The effort is usually worth it. Small manufacturers find that exporting may be the quickest and surest way to double their sales. And even though the value of some \$580 billion of U.S. goods sold overseas each year is dominated by big-ticket items from companies such as Boeing and General Electric, smaller shipments are actually more prevalent. In 1991, 52% of all export transactions were valued at under \$10,000, according to the U.S. Census Bureau, one of the many parties to which exporters must send documents.

Since even small shipments require a fixed amount of paperwork, it doesn't pay to do it if you're not efficient. "And

the only tool you can use to do that is software," says Leslie Stroh, publisher of *The Exporter*, a New York-based trade journal. Some two dozen companies sell export-automation software. Among them are Syntra in New York; Export Software International in Reston, Va.; and Chicago-based International Software Marketing.

The NCITD, also known as the International Trade Facilitation Council, is a good source of information on the different packages available (703 519-0661). From May 26 to 28, the group will hold a Washington-area expo at which most of the software will be demonstrated.

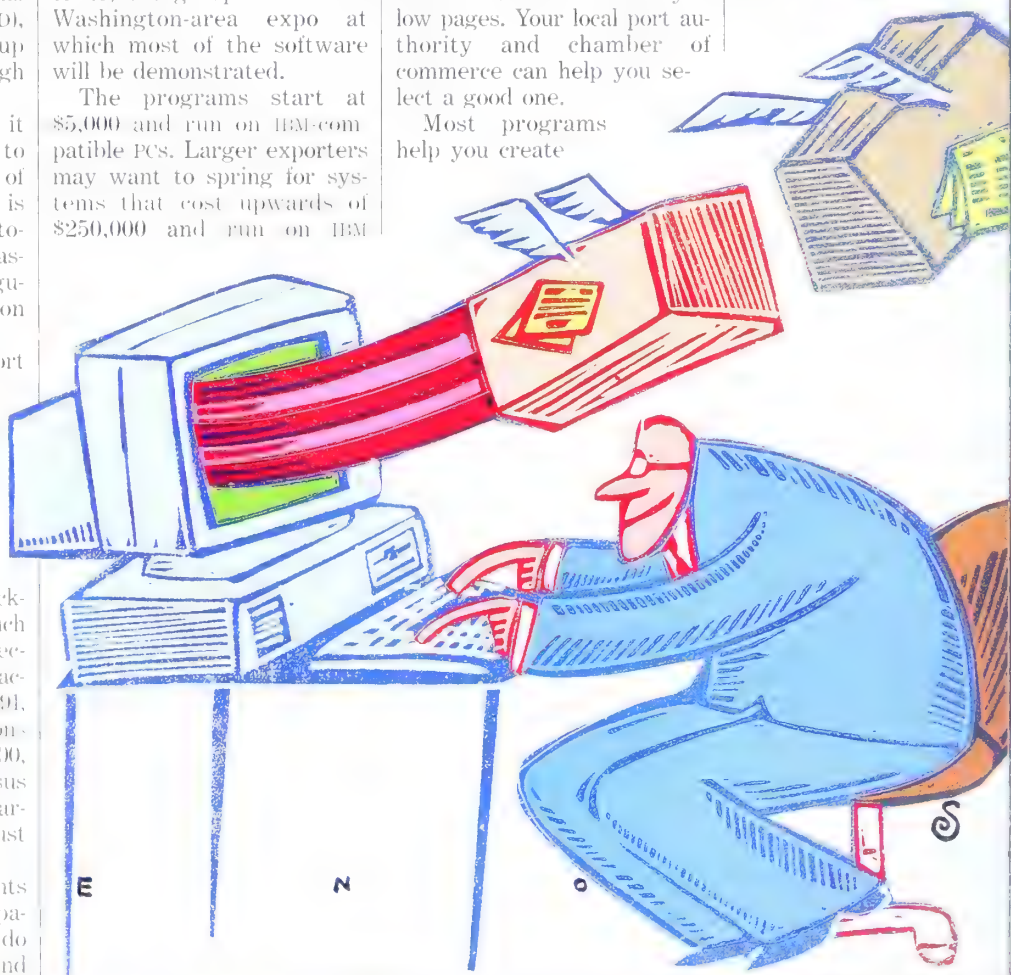
The programs start at \$5,000 and run on IBM-compatible PCs. Larger exporters may want to spring for systems that cost upwards of \$250,000 and run on IBM

AS/400 minicomputers. That may sound like a lot of money, but such highly specialized programs would cost much more to create from scratch. Since every type of export transaction is different, Stroh suggests that companies first assess their needs by getting in touch with the parties that require documentation. Most exporters deal with what's known as a freight forwarder—a company that facilitates the transaction and helps you make a connection with export brokers in foreign lands. Freight forwarders are listed in the yellow pages. Your local port authority and chamber of commerce can help you select a good one.

Most programs help you create

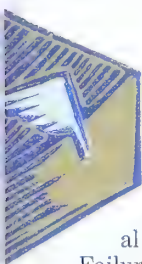
the many different documents you'll need to complete an export transaction. Among them are commercial invoices, country-of-origin certificates, packing slips in different languages, correspondence with government agencies, and port-declaration forms. Without the software, you'd be forced to type out all the documents individually.

EXACT MATCH. That can be tedious work because of the level of detail required. For instance, when a customer in India wants to import your goods, you generally have to receive a let-



of credit from that customer's bank. "If your documents don't match the letter credit exactly, you may not be paid," says Pano Anthos, president of Syntra. Starting at \$10,000, Syntra's X-TRA program for IBM-compatible PCs offers word-processing and database features that allow you to quickly insert into your documents the appropriate legal clauses and financial information that are required by all kinds of foreign banks.

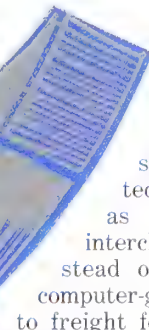
These programs can also help exporters comply with numerous domestic and



international regulations.

Failure to comply with any one of them could result in hefty fines and publicity. Among the strictest are restrictions on the export of table-of-denial screeners. The U.S. government maintains extensive lists of which countries are embargoed from receiving certain products. For instance, "you can't ship helicopter parts to Iraq," says Jerry Ulrich, chairman of J. Ulrich & Associates, a New York City supplier of export software for AS/400 computers. His program presents the tables of restrictions on sensitive products such as chemicals and high-tech components.

While most exports are loaded onto ocean liners, some are sent via air freight. It usually costs more, but it's faster. Federal Express, United Parcel Service, and others provide assistance to exporters looking to automate—in some cases, free of charge. If you make at least 10 shipments per day, Federal Express (901 369-3600) will provide you with a free database and software sys-



tem called PowerShip. The cutting edge in export software involves a technology known as electronic data interchange (EDI). Instead of mailing your computer-generated forms to freight forwarders, customers, banks, and government agencies, there are now numerous ways to send documents electronically, provided you have a modem.

CUSTOMS PLAN. But be careful. Each country and industry tends to have its own EDI standards. So you'll need different electronic forms to send clothing than you will to ship computer parts. The U.S. Customs Service intends to smooth out some of these incompatibilities. It is currently testing an extensive electronic scheme called the Automated Export System. Most export-software companies can provide the programs to get you started with this technology.

Since this type of software is not sold in stores, you'll have to get in touch with the companies directly to arrange a demonstration. You'll notice that the programs don't have the pretty graphics and windows of most popular business software. But export-automation programs have become much easier to use in the past few years.

Still, New York market researcher Trade Data Reports says that only about 22% of manufacturers with 20 to 100 employees export their wares. If your company is among the other 78%, buying software to set up a smooth-running export system could be one of the best investments you can make. *Evan Schwartz*

Real Estate

FINALLY, AN S&L WINDFALL FOR THE LITTLE GUY

In their haste to clean up the savings and loan mess, government officials have often sold the assets of failed thrifts in big bundles. That had the effect of locking out small investors. But thanks to a directive from the Administration, the Resolution Trust Corp. has instituted changes that should give small buyers first crack at more of the \$100 billion in assets left in the RTC's warehouses, particularly residential and commercial real estate.

The program kicks in on May 18 when the RTC will begin auctioning off 150 properties in 26 states, ranging from \$5,000 to \$5 million in assessed value. Given the changes, individuals "should give the RTC a second look," says Mitchell Clarfield of Secured Capital Corp., a Los Angeles investment firm with extensive RTC dealings.

Small investors—those with up to \$1 million to spend—will get dibs on the RTC's real estate assets for at least 120 days after the properties have

they'll be sold—call the RTC at 800 782-3006. Tell the representative what type of property you're interested in, and for 10¢ a listing (minimum order: \$5), you'll receive within two weeks a printout of assets that fit your request. Serious investors might consider a subscription to RTCNET, an on-line data base operated by Business Information Network (800 366-9246). For \$192 a year, plus 41¢ for every minute on-line, you can use a personal computer and modem to conduct searches through the RTC's asset data bases. All RTC and RTCNET listings provide information about each property as well as the name of a local broker who can provide details.

TREAD CAREFULLY. The RTC has also put out booklets designed to help potential investors prepare a bid. For an independent perspective on the sales process, pick up a copy of *Profiting from the Bank and Savings & Loan Crisis* by Stephen Pizzo and Paul Muolo (Harper Business, \$23). Published this past February, the book reviews the RTC sales made so far, with a view to determining how to get the best deal. For instance, the RTC requires at least 15% down if the agency provides financing. But the RTC will sometimes count toward the down payment money that buyers put into escrow to use later for renovations, the authors say.

Prospective investors ought to tread carefully. The \$316 billion in properties sold by the RTC so far consisted mainly of its most sought-after ones. Hence, determining the true market value for the remaining assets could be trickier. But for those who are willing to do their homework, this could be the best time yet to check out what has become the mother of all garage sales. *Dean Foust*



been listed for sale. And until 60 days before a scheduled auction, they will be allowed to pluck specific assets out of large pools offered to institutional buyers. The RTC vows its sales will have more of a hometown flavor: The agency's open-outcry auctions will be smaller, with more local assets on the block.

To find out which properties are available—and when

Smart Money

EASING THE ECONOMIC BURDENS OF TERMINAL ILLNESS

Financial hardship often adds to the many pressures facing the terminally ill. But there's a ready source of cash for the dying: their life insurance.

A loan against a life insurance policy is one of the first places that someone who is terminally ill should look for help. The proceeds of the policy can pay back family members and friends who have the means to lend a large sum while the policyholder is still alive. Holders of whole life insurance, which has a savings component, can take out a personal loan up to the policy's cash value.

If neither of these options is feasible, check with the insurance company. Primarily in response to the AIDS epidemic, about 150 insurers provide payouts to terminally ill policyholders as a "living benefit." Insurers may

expect to live only 6-12 months. The National Insurance Consumer Helpline (800 942-4242) can provide a list of insurers that offer accelerated benefits.

FILLING A VOID. A far less remunerative option is available to almost any policyholder who is dying. A new industry has sprung up in the past four years that will buy policies from the terminally ill, paying out 50% to 80% of the death benefit in return for being named the beneficiary. The 30 or so "vital settlement companies" have been criticized for taking advantage of the dying. California, Kansas, and New Mexico are the first states to try to prevent abuse by creating licensing requirements. Still, because purchasers will work with almost any policyholder who has a shortened life expectancy, these companies do fill a void left by the insurance industry.

Negotiating a settlement is "about as complicated as selling a used car," says David Petersen, a retired financial adviser who suffers from cancer and AIDS. He recommends shopping around to about five settlement companies for the best price. The process can take one to three months

and requires the submission of medical records and a questionnaire. For a list of settlement companies, call Affording Care, a nonprofit information service for the seriously ill, at 212 262-9449.

These funds are now taxable, but the Internal Revenue Service is expected to adopt a rule this summer to make accelerated benefits tax-free.

Amey Stone

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*Settlement company

DATA: BUSINESS WEEK

charge a small fee but often hand over more than 90% of the policy's face value. Prudential takes about a 4% cut to cover the loss on interest from paying the benefit early and charges a \$150 processing fee.

Most insured people still do not have this choice. Also, insurers typically restrict the coverage to those policyholders who are ex-



Electronics

AT LEAST THE TV MIGHT LISTEN TO YOU

If you've ever had the urge to yell at your television, take note: Your TV may now listen. Also, your car stereo, cellular phone, beeper, and personal computer could hang on your words.

Machines that respond to the voice have been around since the late 1960s. But they were the province of business and government. Thanks to advances in software and miniaturization, though, voice-recognition is finally showing up in home electronics.

Late last year, Voice Powered Technology introduced a \$168 remote control that can program a VCR, operate a cable box, and adjust TV volume. Instead of fiddling with dials to record *Seinfeld* on Channel 4, you just say, "Four, Thursday, 9:30 p.m., 10:00 p.m." You need only say "Zap it!" to fast-forward past commercials on a taped show.

THAT REMINDS ME. This fall, the company is bringing out a personal datebook in the same price range. To jog your memory, tell the unit: "Lunch with Joe at Luigi's, Monday, noon." Then at the proper time, the unit reminds you.

Most other voice-recognition products retail for at least \$1,000. Several car systems will dial phone numbers, change stations, or play com-

pact disks on command. A Lexus, and Lincoln offer versions in 1993 models.

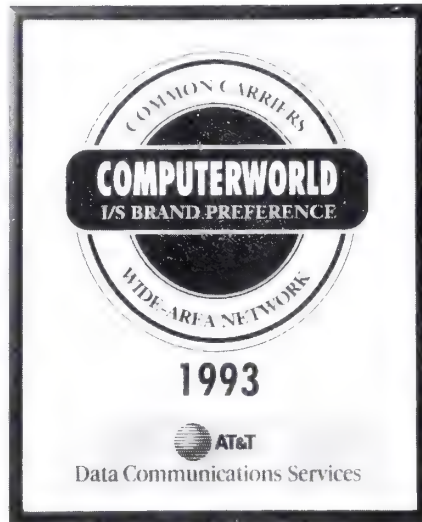
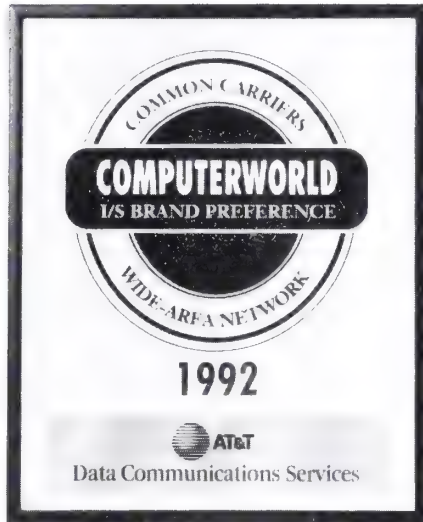
If you want to get a system without buying a new car, the Clarion CAL-10, which retails for \$1,900, integrates a voice-controlled radio and cellular phone and into a standard dashboard. This spring, Blaupunkt is bringing out a car-phone-radio CD system, the "Las Vegas

Although the systems still have some kinks—such as limited vocabulary—home computers are slowly beginning to speak our language. DragonDictate-30K, \$4,995 from Dragon Systems, has a 30,000-word vocabulary that lets you enter text and control programs by voice. DragonDictate-30K, \$4,995 from Dragon Systems, has a 30,000-word vocabulary that lets you enter text and control programs by voice. DragonDictate-30K, \$4,995 from Dragon Systems, has a 30,000-word vocabulary that lets you enter text and control programs by voice.

Expect to start talking more of your home appliances. Voice Powered Technology is negotiating to license voice controls for everything from microwave ovens to stereo Researchers at Carnegie Mellon, Massachusetts Institute of Technology, and other universities are working on voice-language translation systems, and other projects. Move over Capt. Kirk.

Heather M...

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If you harbor a *Raiders of the Lost Ark* passion for ancient cities and exotic bazaars, Syria may be for you. Once a formidable place for all but the most intrepid Westerners, Syria is becoming tourist-friendly for the first time, thanks to a variety of geopolitical factors. The Soviet Union, the country's traditional political patron, is no more, and the Syrians have relaxed their anti-Israeli stance. One restriction: As with all Arab

countries except Egypt, entry is barred if your passport shows you've been to Israel.

Syria is packed with historical sites, ranging from ruined Ugarit, where a clever scribe thought up the first alphabet 3,000 years ago, to some of the most impressive Roman ruins outside Italy. You can get a good sense of this from what is arguably the country's most spectacular site: Palmyra. A palm-studded oasis sitting astride the trade routes that once connected the Roman Empire with India, Arabia, and China, Palmyra became synonymous with wealth and luxury. But its fate was sealed when it revolted against Rome in the 3rd century. Defeated, Palmyra became a deserted city, its magnificent temples, colonnades, and palaces lost in the sands until recently. Because few Europeans and Americans visit Syria, you can have ru-

ins, such as the 1st century Temple of Bel, pretty much to yourself.

It's the same story at innumerable other places. In the country's north are scores of "dead cities," early Christian and Byzantine hilltop settlements abandoned when Moslems overran the country in the 7th century. One of the most beautiful is Qal'at Saman, a massive 5th century sanctuary built to commemorate Saint Simeon the Sty-



*Frieze frame:
Many such
artifacts were
lost in the sand
until recently.*

lite. Simeon is said to have spent the last decades of his life perched on a marble column, the remains of which can still be seen.

Although such ancient sites are the country's strong point, do not overlook the Syria of

more recent times. The capital, Damascus, is blighted by the usual urban problems such as overcrowding, smog, and traffic. (Here, however, the huge numbers of U.S. cars from the 1950s may gridlock a pleasure to watch.) **COLORS, SMELLS.** Aleppo, 70 miles north of Damascus, offers more for the tourist. One, it retains a feel of traditional Middle East. The walled old city, with its 15th and 16th century palaces, 72 mosques, and several churches, is a real treat. The best restaurant is an elegant Armenian eatery, Var, where a huge meal for 12 with Lebanese wine runs \$15.

Traveling around Syria is not without its problems, though the roads are smooth. Signs aren't common and are to be only in Arabic. One solution: a car and driver, which can be arranged in Damascus or Aleppo for less than \$15 a day.

The round-trip airfare from New York to Damascus will set you back \$900 to \$1,000, according to American Travel in Washington, D.C., which specializes in the Middle East (202 835-0099). Hotels can be \$150 and up for a double room. Even though there are

Sheraton and Marriott hotels in Damascus, a Syrian luxury chain called Ca Palace is the one that offers comfortable accommodation throughout the country. Cham is

brainchild of local tourism, coon Osmane Aidi. "With our cultural richness we have should be able to have many more tourists," he says. So you might think about going to Syria before everyone else does. *John Rose*

Worth Noting

■ **DRUG DEAL.** Why wait for President Clinton to cap drug prices? You can score big discounts now by going abroad,

says *Travel Smart* magazine. Ulcer drug Zantac costs \$170 for 100 tablets in the U.S. but only \$39 in Mexico (without a prescription) or \$103 in Canada. Your insurance may even cover the cost.

■ **CABLE COLLEGE.** Entrepreneurs may want to tune in to "Developing and Managing a Small Business," an accelerated series of four courses airing on Mind Extension University (ME/U), a 24-hour

cable-education network (800 777-MIND). Each course is twice a week for eight weeks and costs \$495. Check other colleges to find out the credits will count toward an undergraduate degree.



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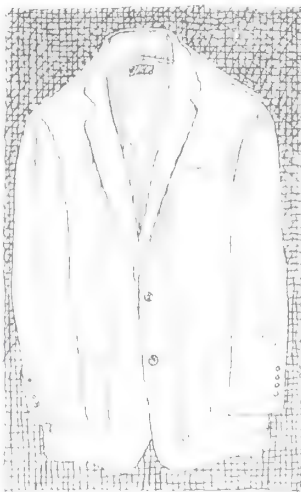
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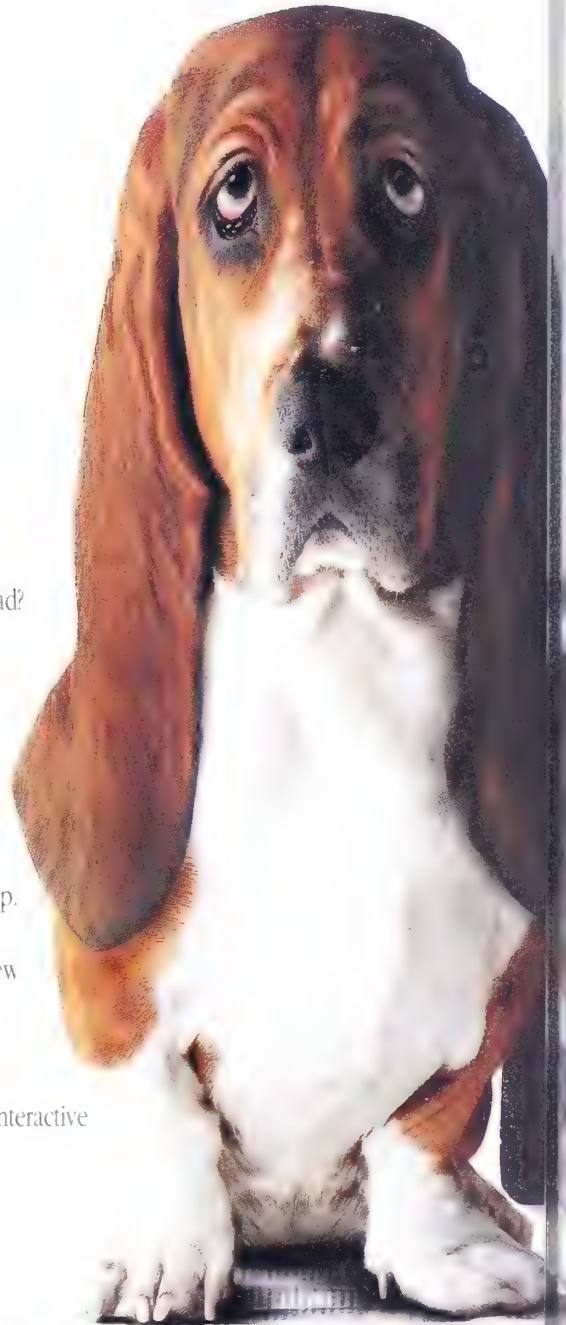
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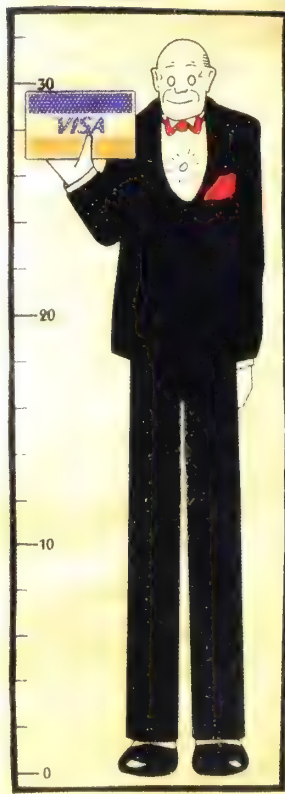
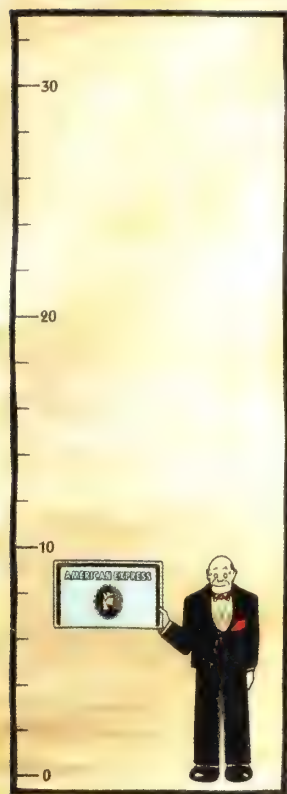
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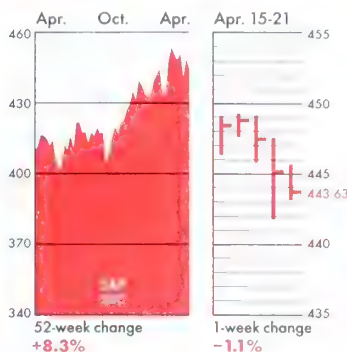
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Investment Figures of the Week

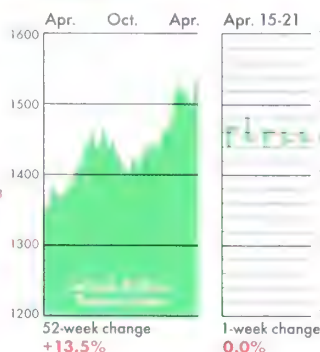
MARKET COMMENTARY

A turbulent week in the financial markets. U.S. stock averages declined slightly, with the biggest drop taking place on Apr. 21. Large and small stocks fell, led by declines in bank and airline stocks. Bond prices also were on a decline, as the dollar fell to a low against the yen. But despite the tug-of-war among airlines, that sector remains among the top-performing groups over the past four weeks. The share-price decline ended on Apr. 21. But technical indicators were mainly neutral to positive.

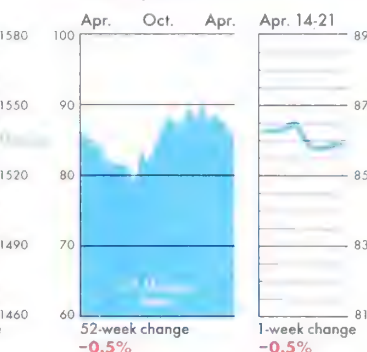
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS	Latest	% change Week	% change 52-week
DOW JONES INDUSTRIALS	3439.4	-0.5	3.0
DOW JONES SMALL CAP INDEX	160.7	-1.0	14.2
DOW JONES MIDCAP INDEX	223.4	-0.8	14.5
DOW JONES 2000	253.5	-1.2	10.0

TECHNICAL INDICATORS	Latest	% change Week	% change 52-week
S&P 500 26-week moving average	2869.6	1.0	10.0
NIKKEI INDEX	19,773.0	-3.7	17.4
TSE COMPOSITE	3663.8	0.9	8.8

FUNDAMENTALS	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	2.86%	2.88%	3.78%
30-YEAR TREASURY BOND YIELD	6.74%	6.76%	8.04%
S&P 500 DIVIDEND YIELD	2.80%	2.78%	3.10%
S&P 500 PRICE/EARNINGS RATIO	23.1	22.2	25.1

TECHNICAL INDICATORS	Latest	Week ago	Reading
S&P 500 26-week moving average	437.3	436.0	Positive
Stocks above 26-week moving average	62.9%	65.8%	Neutral
Speculative sentiment: Put/call ratio	0.47	0.43	Positive
Insider sentiment: Vickers sell/buy ratio	2.90	2.63	Negative

INDUSTRY GROUPS

4-WEEK LEADERS	% change 4-week	% change 52-week	Strongest stock in group	% change 4-week	% change 52-week	Price
MACHINE TOOLS	23.6	47.4	CINCINNATI MILACRON	28.1	46.4	25 5/8
AIRLINES	12.9	0.8	USAIR GROUP	34.8	64.0	22 3/4
WELL EQUIPMENT AND SERVICES	10.2	20.8	BAKER HUGHES	16.3	42.7	26 3/4
HEALTH CARE SERVICES	9.1	-21.6	AMGEN	17.1	-28.1	41
DIVERSIFIED HEALTH CARE	8.3	-14.2	WARNER-LAMBERT	10.2	17.2	74
4-WEEK LAGGARDS	% change 4-week	% change 52-week	Weakest stock in group	% change 4-week	% change 52-week	Price
ALCO	-18.5	-34.6	PHILIP MORRIS	-22.3	-37.0	49 1/8
MANUFACTURED HOUSING	-15.8	-3.7	FLEETWOOD ENTERPRISES	-19.1	-6.6	18 1/2
GENERAL MERCHANDISE CHAINS	-14.9	0.3	WAL-MART STORES	-20.1	-3.2	26 3/8
RETAILERS	-14.5	-11.1	PHELPS DODGE	-18.9	-0.7	43
COMMUNICATIONS EQUIPMENT	-14.3	-12.9	ANDREW	-24.7	73.9	22 1/2

MUTUAL FUNDS

ERS		LAGGARDS	
Week total return	%	Four-week total return	%
JAPANESE SMALL COMPANY	20.4	MORGAN STANLEY EMERGING GROWTH	-7.9
STONE NIKKO JAPAN	19.6	PAPP AMERICA-ABROAD	-7.4
AN	15.2	PROGRESSIVE AGGRESSIVE GROWTH	-7.2
52-week total return	%	52-week total return	%
LIFE-STATE STREET GLOBAL ENERGY	60.8	PROGRESSIVE AGGRESSIVE GROWTH	-35.5
FIDELITY SELECT HOME FINANCE	54.5	FIDELITY SELECT MEDICAL DELIVERY	-26.8
FIDELITY SELECT FINANCIAL SERVICES	50.4	FINANCIAL STRATEGIC HEALTH SCIENCES	-26.0



RELATIVE PORTFOLIOS

Amounts sent the present of \$10,000 one year ago	Foreign stocks	Treasury bonds	U.S. stocks	Money market fund	Gold
Stages indicate total returns	\$12,468 -1.29%	\$12,217 +0.48%	\$11,094 -0.92%	\$10,251 +0.05%	\$10,092 +0.95%

on this page are as of market close Wednesday, Apr. 21, 1993, unless otherwise indicated. Groups include S&P 500 companies only; performance and share prices are as of market close.

Apr. 20. Mutual fund returns are as of Apr. 16. Relative portfolios are valued as of Apr. 20. A more detailed explanation of this page is available on request.

A VALUE-ADDED TAX: WRONG PRESCRIPTION

The debate raging in Washington over health-care reform reflects the anguish being felt across the nation over how to care for our loved ones. That the polity is even discussing extending a package of health benefits throughout the country is a tribute to the priorities of President Clinton and Hillary Rodham Clinton.

But good intentions are not enough. An ill-conceived health-care package can break the economy as easily as save it. An expensive program financed by a value-added tax (VAT), suggested recently by Health & Human Services Secretary Donna Shalala, could become such an economy-breaker.

At the heart of the current debate on health-care reform is the size of the guaranteed basic benefits package, the speed of making it available to the 37 million people without health insurance, and the cost it will impose on businesses and individuals. The bigger the package—and the faster those 37 million are included—the higher the cost. Liberals are pushing for a generous package of benefits that would include long-term care, extensive mental-health care, and prescription drugs. Price: \$50 billion, \$6.5 billion, and \$10 billion, respectively. Including them would more than double the cost of a more bare-bones health-care package.

A 10% VAT, even if food and housing are exempt, could bring in about \$70 billion a year. That would go a long way toward extending a generous health-benefits package to all who are now not covered. That's reason enough for Shalala to want the tax to pay for a huge new program she would supervise at HHS.

It's not good enough reason for President Clinton to agree.

In theory a VAT, which is a national sales tax, is a good idea. A VAT taxes consumption rather than labor or investment. The U.S. economy would get a long-term boost if Washington enacted a VAT—but not to finance health-care reform.

The VAT's main drawback to financing health care is its main virtue—the tax is a monster revenue-raiser. An OECD checkbook—as the VAT has turned out to be in many European countries—would just fuel richer benefits and bigger subsidies. It would ease the pressure the Administration now under to bring health costs under control.

Instituting a new tax on top of higher individual, corporate, and energy taxes won't help the economy, either. Second-quarter gross domestic product is likely to come in 2% or so, far too weak to generate jobs in any major way. Higher taxes will tend to offset any benefits from lower interest rates. If the Administration is serious about a job, then it should reform the country's entire tax system. A VAT should replace, in large measure, income and payroll taxes and should be used to end the double taxation on dividends.

Failing that, the health-care reform package should be confined to what can be financed with higher "sin" and other taxes already on the books. A levy against some share of employer-paid health-insurance premiums might be considered. Most important, health benefits must be controlled carefully as costs so that the initial package is modest and its extension to those currently not covered is gradual. President Clinton must realize that he can't control the limitless American appetite for health care by feeding it the endless income potential of a VAT.

THE RIGHT WAY TO BALANCE TRADE WITH JAPAN

No allied relationship has been more affected by the end of the cold war than that between Washington and Tokyo. Following the mid-April talks between President Clinton and Prime Minister Kiichi Miyazawa, it is clear that the "special relationship" between the two countries is over. Previous Administrations were willing to subordinate vital American economic interests to larger security issues. President Clinton has redefined U.S.-Japanese relations as a matter of trade and investment between equals.

The Administration is also dumping hallowed myths about Japan, particularly the belief that Japan's economy, with enough outside prodding, will eventually emulate the openness of America's economy. It probably won't, ever. As a consequence, officials such as U.S. Trade Representative Mickey Kantor and the President himself are putting forth a set of specific, quantifiable goals for particular industries aimed at cutting Japan's \$50 billion trade surplus with the U.S. They are trying to imitate the success of the semiconductor agreement reached in the mid-'80s, which set a goal of a 20% share of Japan's market by 1993 and reached it. Now the U.S. is targeting high technology, auto parts, insurance, construc-

tion, and other industries for quick results. Such management trade angers Japan, but Tokyo has offered few alternatives to restore some semblance of trade balance.

Clinton, however, is off the mark in suggesting that the "No. 1" way to reduce the deficit is depreciating the dollar. To be sure, U.S. exports to Japan have nearly doubled since the dollar was first devalued in 1985. The weakened dollar has also brought relief to U.S. auto makers and other domestic manufacturers that have long battled Japanese rivalry. But that relief may prove short-lived. The super-yen has forced Japanese manufacturers to grow more competitive by boosting the balance sheets of Japanese banks. A high yen also boosts the cost of doing business in Japan.

No one is suggesting that the dollar should be returned to its overvalued state of a decade ago. But instead of playing on the currency market to help balance the trade deficit, it's better that the Administration set specific trade targets and negotiate achieving them. We don't like managing trade, either, but to pretend that Japan is as open as the U.S. won't solve the problem—and won't produce a fruitful partnership of equals.

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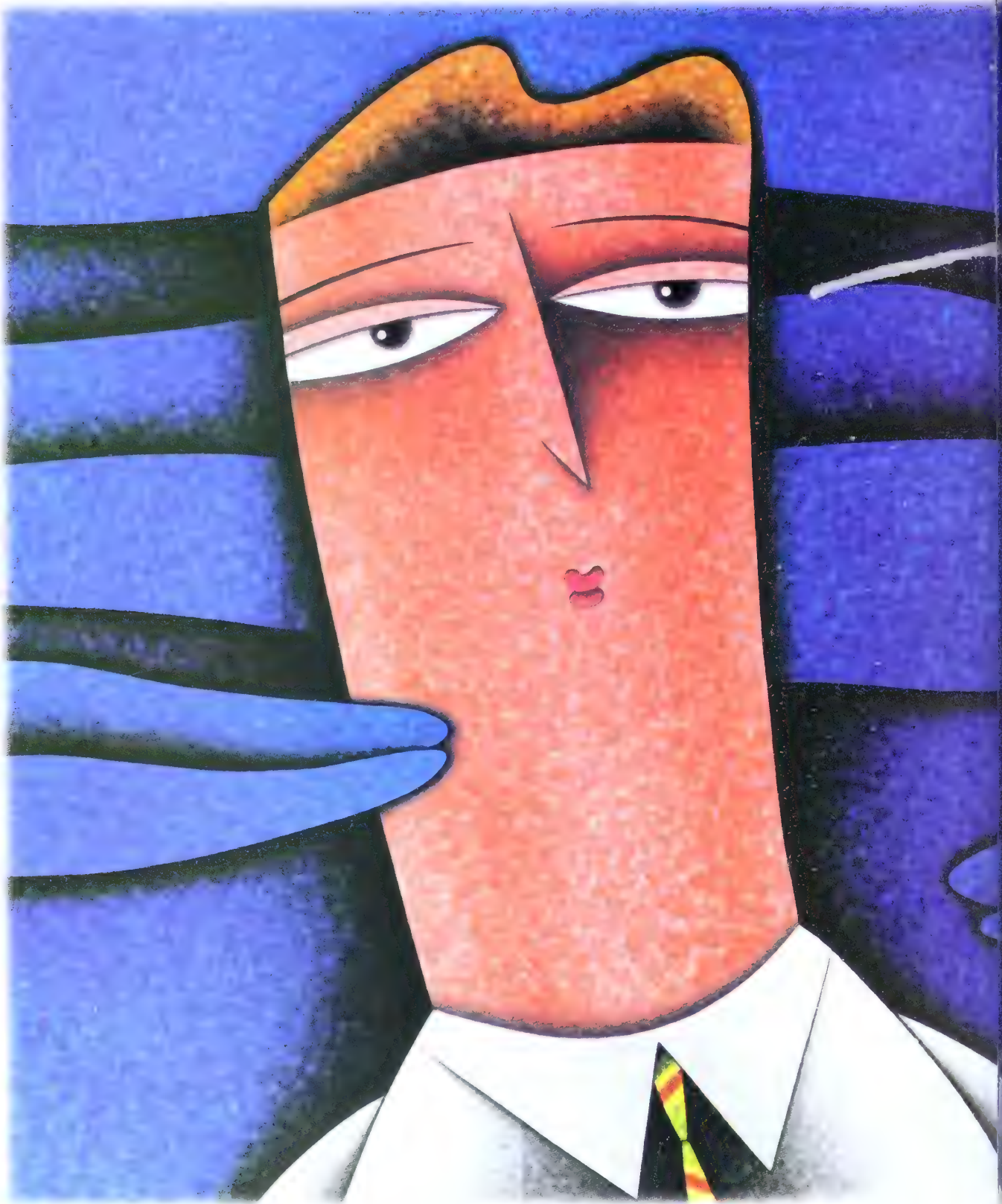
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Cover Story

44 THE LIGHT FANTASTIC

Optoelectronics—the marriage of light and electricity—is already used in laser printers, bar-code scanners, and laptop computers. But now, scientists are building prototypes of chips that contain thousands of microscopic lasers. The goal: To replace poky wires with superspeedy photons—and revolutionize communications, computers, medicine, auto and aircraft design, and more

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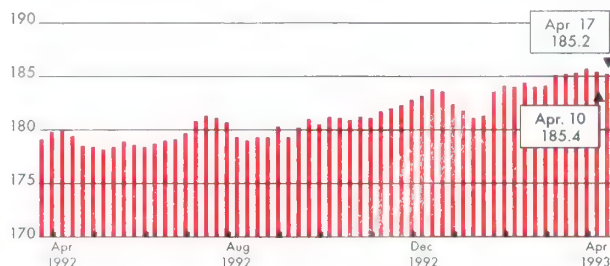
To Russia with great admiration

BusinessWeek Index

PRODUCTION

Change from last week: -0.1%
Change from last year: 3.3%

1967=100 (four-week moving average)

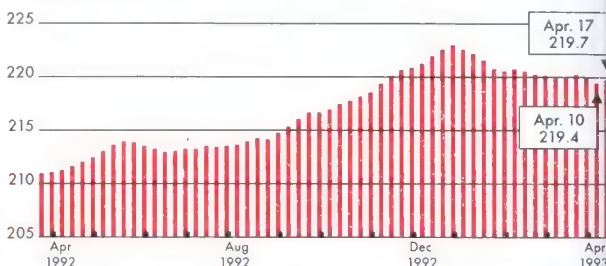


The production index was little changed during the week ended Apr. 17. On a seasonally adjusted basis, output of autos, trucks, lumber, and electricity declined. Steel, crude oil-refining, coal, and paperboard production increased, while paper and rail-freight traffic were flat from the previous week. Before calculation of the four-week moving average, the index fell to 183.7 from 185, as some plants were closed in observance of Easter.

BW production index copyright 1993 by McGraw-Hill Inc.

LEADING

Change from last week: 0.1%
Change from last year: 3.8%



The leading index recovered some ground during the week ended Apr. 17, but its recent downward trend still suggests little future growth in the economy. High stock prices, lower bond yields, fewer business failures, and improved growth in real estate loans helped to lift the index. However, the growth in materials prices sagged further, and M2 growth was flat. Before calculation of the four-week moving average, the index rose to 221.4, from 219.7 in the previous week.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (4/24) thous. of net tons	1,849	1,810#	1.5
AUTOS (4/24) units	125,134	109,023r#	16.9
TRUCKS (4/24) units	98,548	83,208r#	30.0
ELECTRIC POWER (4/24) millions of kilowatt-hours	51,559	51,209#	1.2
CRUDE-OIL REFINING (4/24) thous. of bbl./day	13,678	13,406#	1.9
COAL (4/17) thous. of net tons	18,833#	18,366	2.7
PAPERBOARD (4/17) thous. of tons	833.8#	834.3r	5.2
PAPER (4/17) thous. of tons	782.0#	783.0r	-0.1
LUMBER (4/17) millions of ft	449.1#	463.1	-10.7
RAIL FREIGHT (4/17) billions of ton-miles	21.1#	20.2	7.7

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWP, SFPA, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (4/28)	112	111	133
GERMAN MARK (4/28)	1.59	1.60	1.65
BRITISH POUND (4/28)	1.57	1.54	1.78
FRENCH FRANC (4/28)	5.37	5.42	5.55
CANADIAN DOLLAR (4/28)	1.27	1.26	1.19
SWISS FRANC (4/28)	1.44	1.46	1.51
MEXICAN PESO (4/28)	3.075	3.074	3.088

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (4/28) \$/troy oz	349.700	339.000	4.2
STEEL SCRAP (4/27) #1 heavy, \$/ton	106.50	106.50	15.8
FOODSTUFFS (4/27) index, 1967=100	205.6	205.9	2.9
COPPER (4/24) ¢/lb.	90.1	94.3	-13.1
ALUMINUM (4/24) ¢/lb.	51.8	52.8	-16.9
WHEAT (4/24) #2 hard, \$/bu.	3.56	3.67	-13.2
COTTON (4/24) strict low middling 1-1/16 in., ¢/lb.	56.65	56.26	4.4

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (4/23) S&P 500	442.54	448.72	
CORPORATE BOND YIELD, Aaa (4/23)	7.34%	7.45%	-1.5
INDUSTRIAL MATERIALS PRICES (4/23)	97.3	97.4	-0.1
BUSINESS FAILURES (4/16)	342	383	-10.7
REAL ESTATE LOANS (4/14) billions	\$396.9	\$395.8r	-0.3
MONEY SUPPLY, M2 (4/12) billions	\$3,441.8	\$3,442.2r	-0.01
INITIAL CLAIMS, UNEMPLOYMENT (4/10) thous.	359	373	-3.5

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
ORDERS FOR DURABLE GOODS: MFG. (Mar.) billions	\$130.0	\$135.1r	-3.8
HOUSING STARTS (Mar.) annual rate, thous.	1,134	1,189	-4.6
BUDGET SURPLUS OR DEFICIT (-) (Mar.) millions	-\$44,577	-\$47,594	-6.5
MERCHANDISE TRADE BALANCE (Feb.) billions	-\$7.2	-\$7.2	11.1

Sources: Commerce Dept., Treasury Dept

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (4/12)	\$1,043.2	\$1,041.6r	1.6
BANKS' BUSINESS LOANS (4/14)	273.9	275.1r	-0.4
FREE RESERVES (4/14)	857r	1,177r	-27.2
NONFINANCIAL COMMERCIAL PAPER (4/14)	151.6	149.1	1.7

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for two-week period in millions)

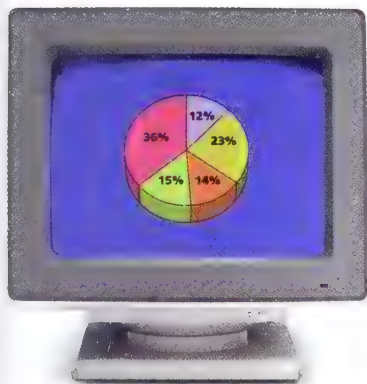
MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (4/27)	2.72%	2.84%	3.6
PRIME (4/28)	6.00	6.00	6.50
COMMERCIAL PAPER 3-MONTH (4/27)	3.12	3.13	3.9
CERTIFICATES OF DEPOSIT 3-MONTH (4/28)	3.08	3.08	3.9
EURODOLLAR 3-MONTH (4/24)	3.09	3.13	4.0

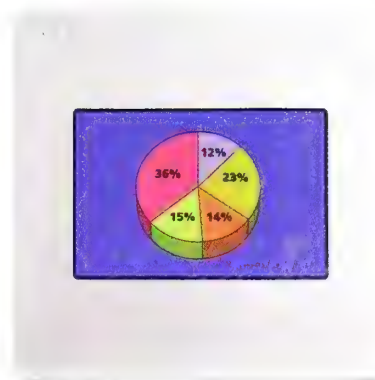
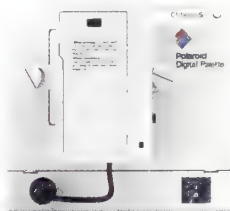
Sources: Federal Reserve Board, First Boston

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*Doug Allen, President,
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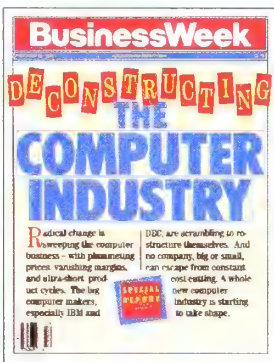
PRAISE FROM OUR PEERS

Since BUSINESS WEEK devotes much effort to tracking globalization of business and gauging the impact of new technology, we are particularly gratified when our coverage is honored by journalistic awards.

Here are the latest examples, for 1992: The Overseas Press Club has designated "Detroit South" (Mar. 16), on automobile manufacturing in Mexico, the best business and economic reporting from abroad by a magazine. The same club has chosen "Growth vs. Environment" (May 11) as the best reporting

on environmental issues in any medium.

On the technology front, the Computer Press Assn. awarded its prize for the best feature reporting in a general-interest publication to "Deconstructing the Computer Industry" (Nov. 23), our analysis of the fragmentation of the computer industry and what it means for the industry and business in general. The awards are further recognition of our extensive worldwide network of editors and correspondents. Their job, as always, is to serve our seven million readers.



IN DEFENSE OF THE NEW YORK STOCK EXCHANGE

Three points should be made concerning "The big bad board?" (Finance, Apr. 26). First, we spend a considerable sum to make market data widely available to the academic world, regardless of the points of view of the recipients, and we work to present that data in as useful a form as possible.

Second, it is widely recognized that we invite all manner of academic scrutiny, for the good of the nation's equity markets. When we see a study factually way off the mark, we work with the authors in the interest of accuracy.

Third, we're deeply disappointed that you would conclude from the comments of two individuals with apparent axes to grind that there is anything but a

full commitment to points one and two.
James L. Cochrane
Senior Vice-President
Research and Planning
New York Stock Exchange Inc.
New York

As a board member of the Institute for the Study of Security Markets and a consultant to the NYSE, I would like to comment on your article alleging tensions between the two organizations.

First, the New York Stock Exchange's decision to distribute its data on compact disks was motivated by technological considerations. Second, the NYSE's decision preceded the critical paper [you mentioned]. Finally, James Cochrane and James Shapiro have provided access to NYSE data, facilities, and personnel to exchange critics and supporters alike. The NYSE has established a pattern of

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Readers Report

CORRECTIONS & CLARIFICATIONS

"Gnats with the knack" (Top of the News, May 3) should have said Wal-Mart Stores Inc. failed to post double-digit same-store sales growth for the first time in eight years, not 80.

openness that is without peer in the securities industry.

Joel Hasbrouck
Stern School of Business
New York University
New York

LOOK—NO SMOKE OR MIRRORS IN TEXAS' BUDGET

Your story "Them's pretty fancy counting tricks, pardner" (Top of the News, Apr. 19) displays little understanding of the principles of our Texas performance review.

True, our two reports have recommended accounting measures to help the state through immediate budget crises: what you call "sleights of hand." Texas taxpayers will hasten to assure you that the resulting savings are very real.

Because your reporter misunderstood our basic goals, he totally misquoted Texas A&M's Jared Hazelton, who never said we had cut only \$700 million from the last budget. The fact is, Hazelton has called upon the legislature to "give serious consideration to the other 442 [out of a total of 460] recommendations made by the comptroller. Collectively, they produce about \$1 billion in available revenue for fiscal 1993-1994 and these are not onetime savings."

Not only that, but you dug up a purported Texas state auditor's report to back up your assertions. The "report" was actually a draft so riddled with inaccuracies and so ridiculed by the Texas audit committee that it was thoroughly discredited and never released.

This year, our state will have no tax increase at all because of Texas performance-review savings and cuts. All in all, I'd say them's pretty fancy accounting facts, pardner.

John Sharp
Comptroller of Public Accounts
Austin, Texas

Editor's note: The \$700 million figure attributed to Hazelton referred to his analysis of the spending cuts proposed by Sharp in 1991. Hazelton did not analyze the budget as approved by the legislature.

Letters to the Editor should be sent to Readers Report, Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax (212) 512-4464. All letters must include an address and daytime and evening phone numbers. We reserve the right to edit letters for clarity and space.

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It's the same place it was when you studied geography. But in economics, humanities, history, and science, it's probably a long way from where you think. In fact, during the past few years Alabama has risen in several business and lifestyle rankings, surpassing states that are larger and more populated. The surge in popularity is taking place for a combination of reasons. First of all, Alabama's always been known for its natural beauty. But now these resources have been combined with a modern, pro-business environment, creating a total package that's greater than the sum of some very strong parts. As a result, our research parks, health care industry, skilled labor force, and joint programs between education and business are drawing attention and praise both nationally and internationally.

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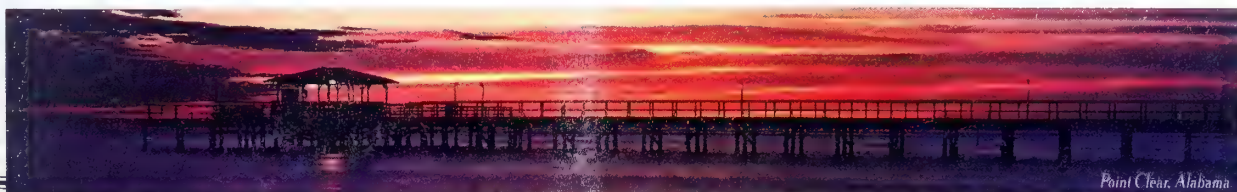
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ALLIANCE CAPITALISM: THE SOCIAL ORGANIZATION OF JAPANESE BUSINESS

By Michael L. Gerlach

University of California • 351pp • \$35

JAPAN'S TIES THAT BIND

Managers of America's largest companies are preoccupied these days with tearing down their bureaucracies and sharpening their focus on products and customers. IBM, General Electric, and Xerox are among those that are restructuring, altering corporate cultures, or seeking new alliances to escape the trap of gigantism.

For clues to the future, they should take a look at *Alliance Capitalism* to see how Japan's giants maintain their relentless competitive drive. This academic examination of the Japanese *keiretsu* system by Michael L. Gerlach, a Japanese-speaking assistant professor of business at the University of California at Berkeley, is often tough reading. But it represents a breakthrough in Western efforts to understand what a *keiretsu* is and how it works.

The surprise for many readers will be that these vast interwoven alliances of companies—including the Mitsui, Mitsubishi, and Sumitomo groups—are not on their way to extinction, as some Japan experts have long asserted. Rather, Gerlach argues, the *keiretsu* are quite efficient in combining capital and technology to spur innovation. Moreover, their complex web of relations with shareholders, customers, suppliers, and employees has a way of keeping managers focused on competitiveness rather than on building bureaucracies. As a result, these highly adaptable organizations are actually increasing their clout, in a phenomenon that Gerlach calls "*keiretsu*-ization." He writes: "What may be happening is not a breaking down of bank-led groupings so much as an expansion of these groups across a broader spectrum of Japanese industry."

For all that has been written about *keiretsu*, few Americans seem to understand the animal. Think of it this way: Imagine that Citicorp owned 10% of all shares in General Motors, Westinghouse Electric, Boeing, IBM, Travelers, and 25 other major companies. Imagine, fur-

ther, that each held shares in other members of the Citicorp group.

Consequently, all these companies would be takeover-proof. But the arrangement would go beyond cross-shareholding or overlapping boards of directors. The companies would be linked in what Gerlach calls a "multiplexity" of relations, doing business together and maintaining other formal and informal ties. Whereas a typical U.S. manager thinks of his relations with customers, suppliers, and shareholders as independent of each other, the Japanese don't,



because the constituent groups overlap.

These organizations, then, reap the advantage of tremendous size even as their quasi-independent members remain focused on their business niches. "Reliance on intercorporate networks has in many ways helped to keep the Japanese firm smaller on average and more focused than its American counterpart, while providing many of the advantages brought about by vertical integration," Gerlach writes. The lesson for U.S. managers: Big organizations can thrive if each business unit has the right combination of independence and discipline.

To make his judgments, Gerlach has compiled a data base of 250 of the largest Japanese manufacturing companies and financial institutions and 250 of their U.S. counterparts. O.K., we could do without some of the regression analysis and coefficients. But the data offer some new hard facts for those interested

in defining the special nature of Japanese capitalism: Japanese companies are 15 times more likely to borrow from their main bank than a U.S. company. Shareholding for large Japanese companies is about twice as concentrated as in the U.S. and four times more stable. In fact, the *keiretsu* control one quarter of all shares on the Tokyo Stock Exchange, making Tokyo much more dominated by major institutions than anyone on Wall Street can imagine.

Gerlach's book goes a long way toward explaining how Japan's bureaucrats were able to stage-manage a revival in the Tokyo stock market in recent weeks. When the Nikkei stock average sank below 14,000, many Western pundits predicted total meltdown. They didn't understand how profoundly Japan's financial markets differ from those in the U.S. Japanese investors within a *keiretsu* buy and sell for different reasons than Western investors.

They want to maintain their other business ties "keep each other warm" as the Japanese saying goes. So when the time came for the Finance Ministry to engineer the Nikkei's revival, there weren't too many enemies that needed to be whittled into. Relationship investing may be a free buzzword in the U.S., but the concept is at the heart of Japanese corporate governance.

More broadly, understanding the *keiretsu* is essential to understanding Japan's engagement with the rest of the

world, since the trading companies affiliated with them handle fully two-thirds of Japan's imports. It is absurd to talk to Japanese government officials about creating an open market when their entire economy is dominated by groups of companies with preferential trading ties.

Moreover, this book shows that Japan's unique brand of capitalism is not evolving toward the Anglo-Saxon model, as many classical free-market economists have insisted. So business executives and financial maven are the only ones who should pick up *Alliance Capitalism*. If Bill Clinton was frustrated after his recent meeting with Prime Minister Kiichi Miyazawa, he should pass a few copies around the White House.

BY WILLIAM J. HOLSTEIN
Holstein, editor of *BUSINESS WEEK's* international edition, authored *The Japanese Power Game*.

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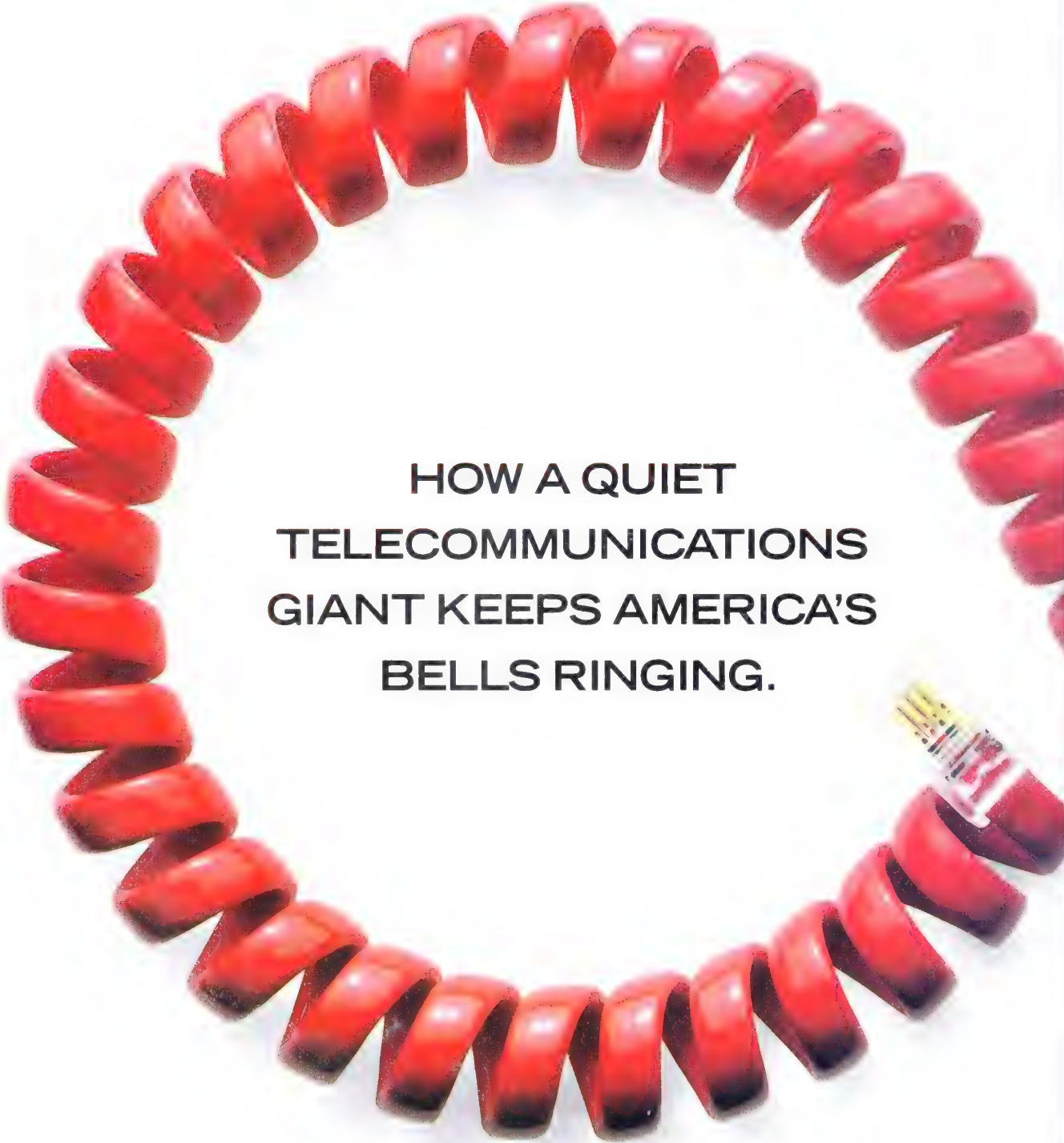


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COMPUTERS, COMMUNICATIONS, MICROELECTRONICS

HILLARY'S HEALTH-CARE TEAM NEEDS AN INJECTION OF REALITY

BY PAUL CRAIG ROBERTS



The First Lady ought to be thinking less about price controls and sky-is-falling rhetoric and more about assuring the supply of private health-care capital and services

Hillary Rodham Clinton's top-secret health-care reform seems star-crossed. So far, she has had fender benders with U.S. District Judge Royce C. Lamberth and the Association of American Physicians & Surgeons, and she seems headed for a major clash with the Democratic leadership in the House and Senate. She may even have stepped on Vice-President Al Gore's toes by substituting her portrait for his in the Old Executive Office Building, where the health task force meets.

On Mar. 10, Judge Lamberth ruled that the secrecy of Hillary's meetings was in violation of the 21-year-old Federal Advisory Committee Act. The headstrong First Lady decided to ask the U.S. Court of Appeals to overturn the decision, and in the meantime she is continuing the secret meetings. But her hubris proved politically unwise because it galvanized the Democratic House leadership into action against her. In April, House General Counsel Steven R. Ross, acting on instructions from Speaker Thomas S. Foley (D-Wash.), informed the Appeals Court that the House of Representatives is filing a detailed brief in support of Judge Lamberth's ruling.

The next bombshell came from Senate Majority Leader George J. Mitchell (D-Me.), who used his Apr. 18 appearance on *Meet the Press* to tell the White House to forget about financing health-care reform with a value-added tax and government-imposed price controls. Mitchell said that "in a free-market economy, we're better off without" price controls. New health taxes struck the senator as putting the cart before the horse: "The problem with the American health-care system is not that we need to spend more money. The problem is we're spending too much money in wasteful and inefficient ways."

COSTLY PREMIUMS. With comeuppances like these, it behooves the health task force to get real. My first suggestion is that it cool its sky-is-falling rhetoric and not fix something that is not broken. A rising percentage of the gross domestic product spent on health care is not, per se, evidence of a "health-care crisis." As a society becomes richer and medical technology improves, it is natural that people choose to spend more on health. Formerly, a bum knee was a reason to give up tennis. Today, magnetic resonance imaging locates damaged cartilage, and arthroscopic surgery removes it.

The task force needs to take a hard look at the unchallenged assumption that there are 37 million uninsured Americans. This number seems to consist primarily of people who are temporarily without coverage while between

jobs. It doesn't mean that there are 37 million people outside the medical system. Among the actual uninsured, there is a large contingent of healthy young people who choose to be uninsured because their annual medical bills are less than their health-insurance premiums. The bulk of the uninsured-ill appear to be provided for within the present system as "uncompensated care." In one way or another, the hospitals pass this \$10 billion annual cost on to the rest of us. Other suggestions:

- Recognize that government programs have a knack for producing more problems than solutions. Government health programs notoriously do so because they increase demand while curtailing supply. The result is rationing, which means either a deterioration in the quality and timeliness of care, or denial of treatment in cases where the patient's prospects are deemed not good or the cost is reckoned to exceed the value of the person's life.

- Remember that government health-care systems inevitably founder on the matter of capital cost. In our present health-care system much of the capital cost is provided privately by business and other contributions to hospitals and locally by bond issues. All of this stops when health care becomes a federal budget item financed with taxation. Peoria will not be issuing bonds for the local hospital, and businesses will not be donating CAT scanners. All of these costs are dumped on the federal budget, and they swamp the assumed savings in health-care delivery.

- Bear in mind that third-party payments, whether made by private insurers or government health programs, always drive up the price of health care. The patient's incentive is to demand all he can get, and the provider doesn't have to prescribe with the patient's budget in mind. Inevitably, insurance companies and governments respond with fee schedules and political demagoguery against "obscene" profits of health-care providers. Regulations mount, and doctors are diverted from patients by mountains of paperwork.

If the First Lady's health task force wants to perform a public service, it can focus on two goals: First, reestablish health insurance as insurance once again instead of a prepaid form of health care. Insurance was supposed to pay for budget-busting medical bills, not every office visit and prescription. Second, curtail the extraordinary regulation of health-care practitioners and limit malpractice awards. It's a lot cheaper for a doctor to check your urine in his office than to send you off to an accredited lab. Above all, beware of curtailing supply with disincentives, while piling more demand on the system.

PAUL CRAIG ROBERTS IS CHAIRMAN OF THE INSTITUTE FOR POLITICAL ECONOMY IN WASHINGTON



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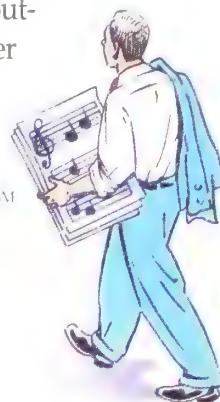
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BY GENE KORETZ

U.S. WEAPONS MAKERS AREN'T THE ONLY ONES TAKING A BEATING

Whatever its vaunted benefits in reducing the federal deficit, there's no denying that the defense build-down under way in recent years exacerbated the recession and is hampering the recovery. But as economists Farid Abolfathi and Matthew d'Arbeloff of DRI/McGraw-Hill point out in a new study, the problems of adjusting to the collapse of Soviet power affect many national economies and defense industries.

Even before the breakup of the Soviet Union, aggregate world military expenditures had begun to decline, note the two researchers. According to DRI/Mc-

in many countries are hurting, Britain and France are suffering the most because they have been large arms exporters, while Germany and other countries have been major arms importers.

Indeed, the sharp drop in military spending has already had a dramatic effect on world arms trade. Even with large stocks of former Soviet and Eastern European arms flooding world markets, Abolfathi and d'Arbeloff calculate that exports of major arms systems have already declined by 53% since 1987 (chart).

To be sure, Persian Gulf nations such as Saudi Arabia, Kuwait, and Iran have ordered \$50 billion in armaments since the Iraqi invasion of Kuwait in 1990, and they are currently spending some \$40 billion to \$45 billion a year on defense. And developing nations in East and South Asia, including China, Taiwan, Indonesia, Malaysia, and South Korea, have placed \$20 billion in arms orders since 1990. But military budgets in most other developing nations are either stagnant or declining, and rising outlays in the Middle East and Asia are not large enough to offset falling outlays elsewhere in the world.

Abolfathi and d'Arbeloff concede that an anti-Western takeover in Russia or the outbreak of a full-scale regional war in the Balkans would impede the shrinkage in military budgets they project. But they note that the economies of Russia and its allies are too weak to engage in a renewed arms race with the West. Over the long run, they say, defense spending is still headed down.

TECHNOLOGY IS FUELING RETAIL PRODUCTIVITY, BUT SLOWING JOB GAINS

Don't place the blame for lagging retail employment growth entirely on sluggish sales, advises economist Stephen S. Roach of Morgan Stanley & Co. Productivity growth fueled by the increasing use of electronic computing devices is also trimming job gains, he says. In a 1992 National Retail Federation survey of retailers, for example, some 83% of respondents said they will be using bar codes by the end of this year. What's more, the percentage of companies that were already scanning either internally prepared codes or vendor-marked goods jumped from 30% in 1991 to 58% last year.

"The growing use of such devices for point-of-sales computing, inventory management, and other functions," says Roach, "helps explain why retail employment is still down some 400,000 from its 1990 peak."

BIG COMPANIES ARE STILL AXING JOBS WITH A VENGEANCE

The recovery is now more than two years old, but the drumbeat of announcements of permanent staff cuts by major U.S. companies actually appears to be getting louder. That's the view of economist Edward S. Hyman Jr. of International Strategy & Investment Group Inc., who has been monitoring such reports for several years.

Hyman's survey of major newspaper and business publications indicates that the number of layoff announcements through Apr. 26 of this year hit 142 some 13% more than in the same period in 1992. What's more, the total number of jobs slated to be eliminated has averaged nearly 56,000 a month so far this year. "When you remember that payroll employment is up by only 84,000 a month over the past year," he says, "that's a big number."

RAW MATERIALS DON'T QUITE HAVE SPRING FEVER YET

It was only a month or two ago that a pickup in industrial-commodity prices spooked the inflation-wary financial markets. Since early March, however, the *Journal of Commerce's* price index of 18 industrial commodities has dropped by 4.3%, and the Commodity Research Bureau's closely watched spot-price index of industrial raw materials has fallen to a six-year low.

The big question is whether the reversal means the upturn is losing steam. Economist Edward E. Yardeni of C.J. Lawrence Inc. attributes the latest downdraft to weak industrial economies overseas and to continuing metals sales by the former Soviet Union to meet an acute need for hard currency. "Industrial-commodity price movements today are responding to global economic pressures," he says. "We think the U.S. industrial recovery remains on track."

But Wall Street economist Howard Sharpe isn't so sure. "The Russians were also dumping metals a few months ago when industrial-commodity prices were moving higher," he says. Noting that the sensitive materials component of the index of leading indicators will be down in April, he finds it difficult to believe that the factory sector is gaining much strength when industrial commodities seem so weak.

WORLD ARMS EXPORTS ARE DECLINING SHARPLY



▲ BILLIONS OF 1990 DOLLARS

* DOES NOT INCLUDE SMALL ARMS, MORTARS AND MISCELLANEOUS ARMAMENTS
DATA: STOCKHOLM INTERNATIONAL PEACE INSTITUTE

Graw-Hill estimates, U.S. defense spending has already contracted by over 22% in real terms since 1986 and is projected to be down 54% by 1997. And European defense spending is expected to decline by 52% between 1989 and 1997. Meanwhile, military spending has fallen even more precipitously in Eastern Europe and among the former Soviet republics, where such expenditures once accounted for more than one-eighth of gross national product.

In the West, the U.S. is taking the biggest economic hit as the defense share of gross domestic product continues its decline from about 6.4% in 1987 and 5.2% last year to around 3.2% by 1997. The pain is less severe in Western Europe, where defense spending as a percent of GDP has been only half of the U.S. figure, but the effect is magnified because the sharpest drops are occurring while much of the Continent is in recession. Although high-tech industries



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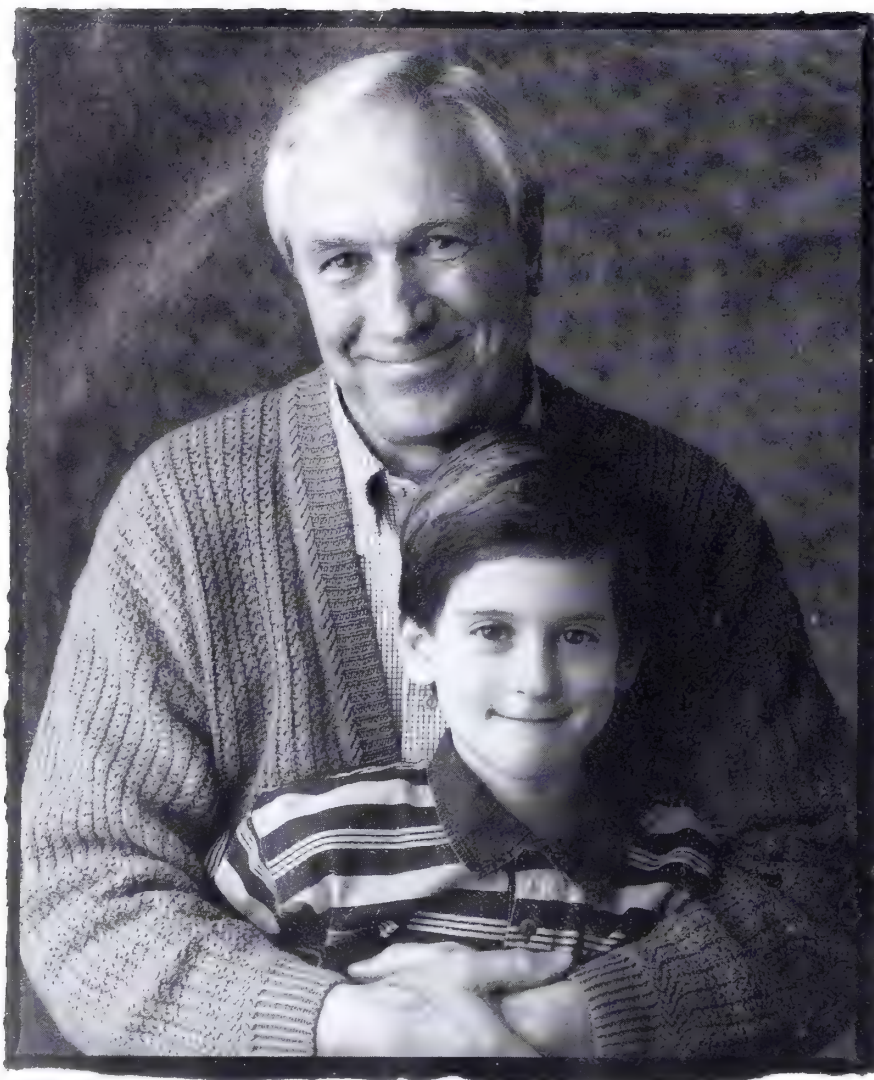
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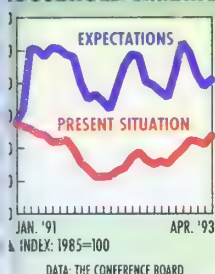
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F CLINTON CAN'T PASS A MEASLY \$16 BILLION PACKAGE . . .

Remember Albin Killat? He was the German diver who did a belly flop at the 1992 Olympic Games. Now picture President Clinton's first plunge into economic policy.

To be sure, Clinton's \$16.3 billion economic-stimulus package was too small to deliver "jobs, jobs, jobs" in the best place. But his inability to get even this token gesture through Congress means that the President now has lost points in the game he was elected to win—the economy. His failure raises new policy uncertainties that could adversely affect the outlook.

THE VIEW FROM HOUSEHOLD AMERICA



Republican filibustering that killed the stimulus package. On both fronts, the GOP will lob grenades at the Administration's onslaught of new taxes.

The greatest threat to the economy from all this comes from the bond market. New uncertainty about long-run deficit reduction is making market players nervous. Long-term interest rates jumped on Apr. 27 after White House Budget Director Leon E. Panetta expressed discouragement about cutting the deficit in 1993.

The sharp decline in long rates earlier in the year, the result of Clinton's proposal to reduce federal red ink, contained far more stimulus than the President's fiscal package did. But now, new worries about Clinton's ability to make policy could keep long rates higher than the excellent inflation outlook would justify. In particular, the bond market knows that the health-care debate will be inescapable—and that the failure to contain health-care costs alone will jeopardize permanent deficit reduction.

RETAIL SALES ARE BOUNCING BACK

For now, at least, President Clinton's political problems are his own and not the economy's. The latest readings show that manufacturing still looks buoyant, despite sharp drop in March orders. The trend of employment gains continues to signal that inflation is under control. Most important, Household America is a little more confi-

dent, and consumer spending in April appears to be recovering from its March slump (charts).

The *Johnson Redbook Report* on weekly retail activity shows that sales through Apr. 24 were up a seasonally adjusted 2.3% from all of March. That is considerably stronger than the previous week's report.

In addition, sales of U.S.-made cars and light trucks in the first 20 days of April were running at annual rates of 6.6 million and 5.1 million, respectively. Both rates are well above the March levels. Combined sales in April are likely to hit the highest level in more than three years.

PAYROLL GROWTH IS SLOW BUT ASSURING

Another good sign from households is the April bounce in consumer confidence. The Conference Board's index rose to 67.7 last month from 63.2 in March. Still, the rise followed three consecutive declines, and the April level remains some 10 points below the December high, hit just after the election. Households still seem disillusioned after seeing their postelection hopes for the economy fade into one of the largest tax hikes in history.

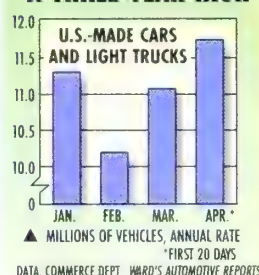
Clearly, the additional taxes required to pay for the Administration's economic program are shaping up to be a heavy weight on consumer income—and the economy—in 1994. But in 1993, consumers seem more interested in spending it while they have it, and their behavior reflects an improving assessment of present conditions.

In April, people felt more positive about both current conditions and the outlook. What's more, consumers' assessment of their present situation rose to the highest level in two years. The fuel behind the rise in this component of confidence is slowly improving job growth. Over the past three years, this index has tracked private payrolls almost step for step.

Tax talk, Clinton's declining popularity in the polls, and fears of renewed congressional gridlock will continue to color consumer expectations—and thus confidence—this spring. But as long as payrolls keep expanding, consumers will increase their spending based on the present, not the future.

With the outlook for consumer demand looking a little better than the March numbers had suggested, manufacturing seems likely to hold on to the momentum it has picked up in recent months. Bad weather hardly

VEHICLE SALES HIT A THREE-YEAR HIGH



Business Outlook

seems to blame for the 3.7% drop in durable-goods orders in March, but the orders data are the most volatile of the government's numbers. A 60% plunge in aircraft orders, following a 122% surge in February, accounted for three-fourths of the overall March drop.

The trend of orders over several months is more important than any single month's blip. On that score, orders in the first quarter stand 3.5% above the fourth-quarter level, and they are 11.6% ahead of the year-ago reading (chart). Unless orders fall further in coming months, factory production seems likely to keep chugging ahead this spring.

WAGE GAINS ARE MODEST—SO FAR

As if dealing with the Republicans and the bond market weren't enough for Clinton, will the inflationary potential of rising labor costs bring a more restrictive Federal Reserve into the policy equation? After all, growth in the cost of wages and benefits seems to have bottomed out after 2½ years of decline. Employment costs for private industry rose 1% in the first quarter. That kept labor costs increasing at a year-over-year rate of 3.5%, the same annual advance as in the fourth quarter.

The Fed, however, may not apply the brakes just because the days of slowing wage growth are over. That's because it is unit labor costs—not compensation—that fuel inflation. And the recent gains in productivity will keep unit costs from rising by very much this year.

Wages are the main reason for the steady growth in compensation. Pay increased 2.7% over the past year, not much different from the gains of the previous two quarters.

Pay raises may be a bit fatter now that job growth is

firming. Last quarter, unions negotiated pay increases averaging 3.1% annually over the life of the bargaining agreement. That's a bit better than the 2.6% yearly raise won in the fourth quarter of 1992, although the gain is still below the 3.9% hike received by these same unions when they bargained three to four years ago.

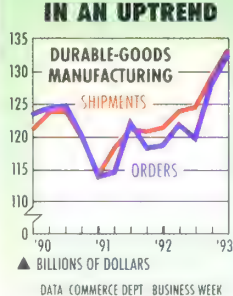
Benefit expenses have also slowed, but they remain a trouble spot for businesses. These costs—including bonuses, vacation pay, and health insurance—rose by 5.6% the year ended last quarter, up from 5.1% in the preceding quarter (chart).

The Labor Dept. said that bigger bonuses helped boost benefit costs. The absence of those payouts means that benefits are rising by a smaller pace this quarter. In addition, Clinton's promise to control medical-care costs may stabilize the price tag for benefits later on.

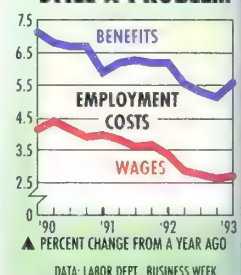
However, revamping the U.S. health-care system has an even higher degree of difficulty than does the President's deficit-reduction plan. Already, the White House's trial balloons on how to finance universal health care have gotten low marks from the Republicans. And tax talk may further spook the bond market because more taxes in any form—from energy to value-added—could cause a blip in the inflation rate over the next few years even while economic fundamentals exert little upward pressure on prices.

Clinton must calm those concerns quickly because his economic policies will face an even tougher time if he doesn't have the backing of the financial markets. Indeed, as the President starts his twin battles on the budget and health-care fronts, he will be well advised to heed the lesson of Albin Killeat's off-center dive: Make sure you have solid footing before taking the plunge.

DEMAND REMAINS IN AN UPTREND



BENEFIT COSTS ARE STILL A PROBLEM



THE WEEK AHEAD

CONSTRUCTION SPENDING

Monday, May 3, 10 a.m.

Building spending likely fell by 0.7% in storm-blighted March, after rising 0.1% in February, say economists surveyed by McGraw-Hill Inc.'s MMS International.

NAPM SURVEY

Monday, May 3, 10 a.m.

The National Association of Purchasing Management's index of business activity probably rose to 54.5% in April from 54% in March.

LEADING INDICATORS

Tuesday, May 4, 8:30 a.m.

The MMS survey calls for a 0.8% decline in the government's March composite

index of leading indicators. That is worrisome because the index was flat in January, and rose only 0.5% in February.

PRODUCTIVITY AND COSTS

Thursday, May 6, 10 a.m.

Did the first-quarter economy repeat the fourth quarter's productivity jump of 4.7%? Not likely, but output per hour worked in the nonfarm business sector probably managed to rise at a respectable 1% annual rate. That means unit labor costs likely increased at a 2.5% annual rate last quarter, after falling by 0.3% at the end of 1992. These expectations are suggested by the 3.5% rise in compensation costs along with the small gains in output and total hours worked in the economy in the first quarter.

EMPLOYMENT

Friday, May 7, 8:30 a.m.

The MMS economists expect that no farm payrolls rose by 165,000 in April. Employment had dropped by 22,000 in March, but a steep drop in construction jobs more than accounted for the falloff. Even with the solid gain expected in new jobs, though, the unemployment rate probably was unchanged in April from March's relatively high 7%.

INSTALLMENT CREDIT

Friday, May 7

Consumers probably increased the credit loads by just \$800 million in March. Installment debt had risen to \$1.17 billion in February.

Under statement.



NEW AQUALAND PRO DIVING WATCH. On the outside it's strikingly handsome, but its real beauty lies within. It has an elapsed dive-time chronograph, dive-time alarm function, and maximum depth memory, a rugged, reinforced strap and it's water-resistant to 660 feet. Citizen is proud to have been selected as the official timer of the U.S. Open Tennis Championships.



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THE CLINTON ECONOMIC PROGRAM COULD STILL FLY

After a cold, soggy April, spring has finally come to Washington. But even the riot of colorful cherry blossoms, tulips, and azaleas isn't enough to cut the gloom slowly seeping through the capital. The economy is showing renewed signs of sluggishness. Congressional gridlock, proclaimed dead a few weeks ago, is back. And President Clinton is finding his political judgment questioned by everyone from Capitol Hill Republicans to gadfly Ross Perot to his own budget director.

Indeed, Clinton may be getting vertigo from his downward spiral. His tax stimulus program—an investment tax credit and a targeted capital-gains cut—appear doomed. And his public support, eroded by unpopular stands on homosexuals in the military and a propensity to break campaign promises, has plummeted to a record low for a fledgling President. Some 57% of voters agree that “Bill Clinton is trying to do too much at once, and has lost his focus on issues that are most important for him to deal with,” one recent poll says. No wonder the normally ebullient Clinton was reduced at an Apr. 23 press conference to wondering: “What could I have done differently to make it come out differently?”

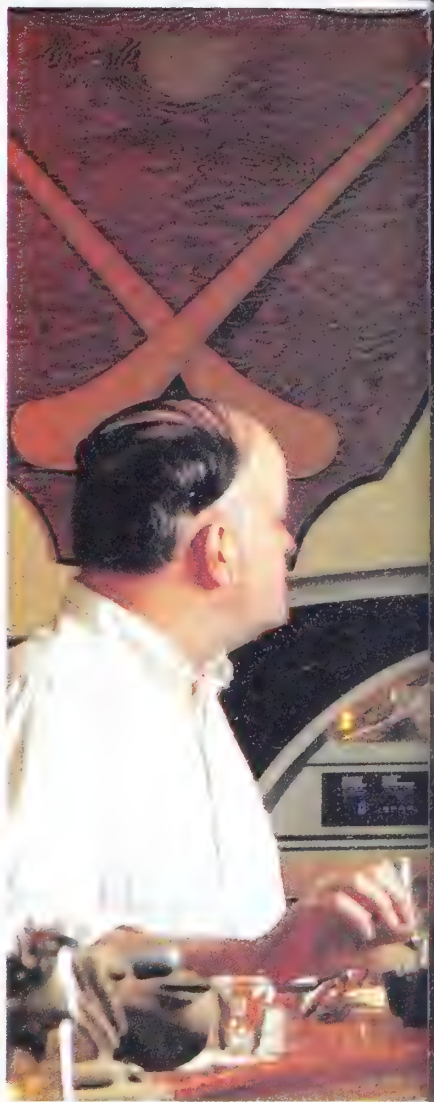
Time for an est seminar and a long soak in the White House hot tub? Not yet. True, Clinton is licking his wounds from the loss of the Administration's \$16 billion “emergency” spending package, killed in the Senate by a GOP filibuster.

But the fight over the heart of his economic program—\$500 billion in deficit reduction, plus new spending and tax breaks to promote investment and infrastructure—is just beginning. And the President stands a good chance of winning approval for much of his program.

NO FILIBUSTERS. Business executives, in particular, shed few tears for the stimulus package. Bennett King, chairman of Albuquerque's Aztech International Ltd., a maker of industrial cooling systems, was glad to see it die. “All we're doing is adding to the deficit,” he says. But Clinton's drift is causing growing anxiety. “The question now is whether he has the real leadership to make something happen,” says John V. Roach, CEO of Tandy Corp.

The President will have the opportunity to show his stripes during the coming budget debate. He faces stiff bipartisan opposition on many provisions, including the ITC. The credit “doesn't do anything for the deficit, and it makes the economy more inefficient,” grouses Senator Bill Bradley (D-N.J.), who would rather pare back a proposed two-percentage-point increase in the corporate tax rate.

Unlike his ill-fated stimulus plan, Clinton's budget proposal will be considered under parliamentary rules that rig the game in his favor. No filibusters are allowed. And the final budget totals must match deficit targets approved by Congress in March. That means any Republican fighting a tax increase or liber-



al Democrat opposing a spending cut must offer an alternative to keep the deficit from growing. “There's no room for a filibuster,” says Rahm Emanuel, political affairs director at the White House. “We can even afford to lose a few Democrats.”

That will help keep the program more or less intact. “In broad outlines, it will be the President's package, but there will be some important peripheral changes,” says C. Clinton Stretch, tax legislation director at Deloitte & Touche. The biggest items—such as boosting the



CHALLENGES TO CLINTONOMICS

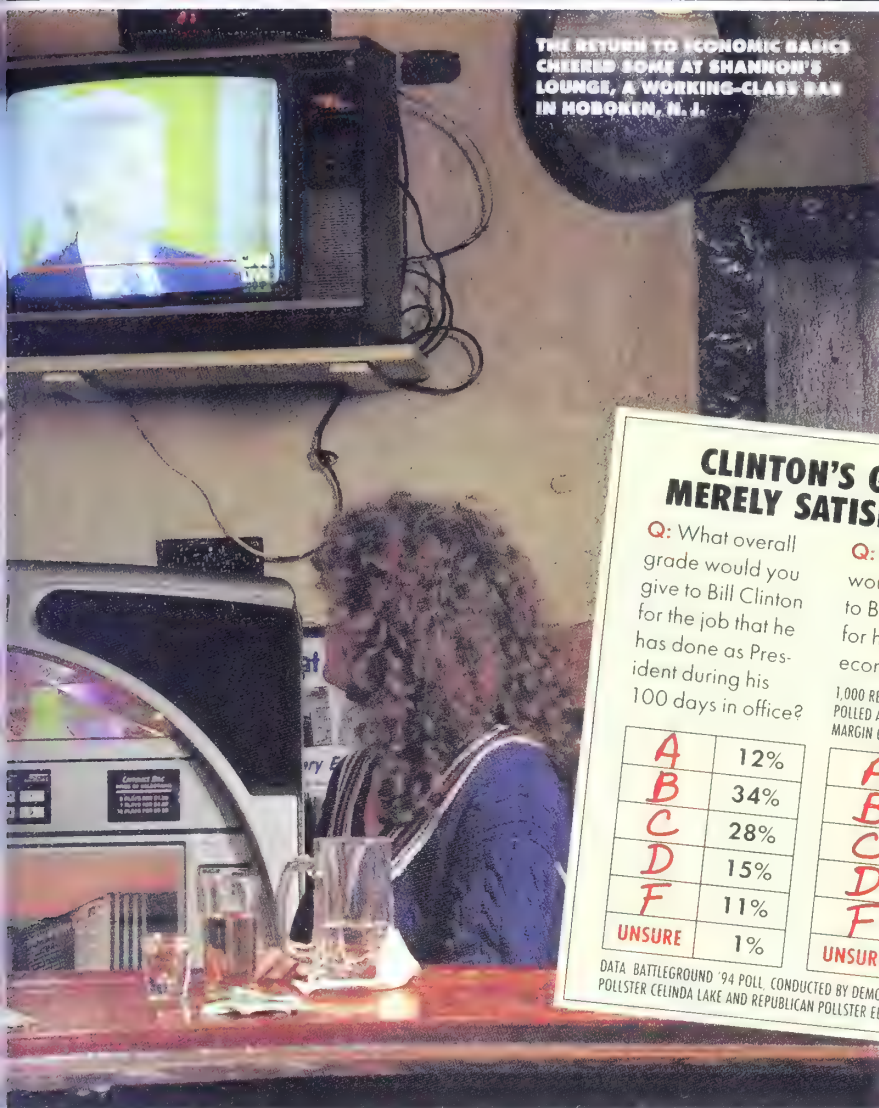
Congress is beginning serious work on President Clinton's tax and spending proposals. While special congressional rules will help him, he still faces rough going. A preview:

DATA: BUSINESS WEEK

TAX THE WEALTHY

Slated to raise \$12 billion over six years, it's the biggest single tax increase in the plan—

probably the safest revenue proposition would raise the top rate to 36%. Republicans will scream, but they lack the votes to stop it.



THE RETURN TO ECONOMIC BASICS CHEERED SOME AT SHANNON'S LOUNGE, A WORKING-CLASS BAR IN HOBOKEN, N. J.

CLINTON'S GRADE: MERELY SATISFACTORY

Q: What overall grade would you give to Bill Clinton for the job that he has done as President during his 100 days in office?

A	12%
B	34%
C	28%
D	15%
F	11%
UNSURE	1%

Q: What grade would you give to Bill Clinton for handling the economy?

1,000 REGISTERED VOTERS
POLLED APR. 21-22
MARGIN OF ERROR ±3.1%

A	5%
B	23%
C	35%
D	17%
F	17%
UNSURE	4%

DATA: BATTLEGROUND '94 POLL, CONDUCTED BY DEMOCRATIC POLLSTER CELINDA LAKE AND REPUBLICAN POLLSTER ED GOEAS

nations, and loans for small businesses.

Nevertheless, the return to economic basics cheers Patrick "Mack" McNamara, an unemployed carpenter commiserating with friends at Shannon's Lounge, a working-class bar in Hoboken, N.J. "I had hoped the economy would be his primary thing," he says. "That's why we pushed for him."

But to win on the budget, the peripatetic Clinton will have to keep his eye on the main chance. In recent weeks, the

White House has hit Washington with a policy glut that has left the Administration exhausted and floundering. It has been hard for the economy to get much attention amid the passion to reform campaign finance, lobbying, education, and welfare. Inescapable foreign challenges—the leadership crisis in Russia, the slaughter in Bosnia—also took a toll.

HOLDING OFF. The trouble is far from over, because the Administration's plan to overhaul the health-care system remains the biggest diversion of all. With release of the proposal expected in

late May—nearly a month behind schedule—top officials still are arguing over key issues of financing and coverage. The President's more liberal political aides want a generous plan that quickly brings top-notch benefits to uninsured Americans, while more conservative economic advisers worry about the price tag and tax burden.

Business also fears adding burdens to recession-battered balance sheets. "Pretty soon, all we'll have left are government employees, health-care workers, and lawyers," says Aztech's King. "I think we're going into a recessionary environment from heavy taxation."

Conservatives, meanwhile, bridle at

individual tax rate to 36%—are protected, because big revenue-raising substitutes are tough to come by.

KLING FIELD. The key arena in the budget brawl will be the Senate Finance Committee, which controls entitlements, health care, and taxes. Nearly 80% of the proposed deficit trims must pass through the committee, where Democrats enjoy only an 11-9 margin. Republicans will embarrass the Democrats by voting against higher taxes on Social Security benefits. And business lobbyists will push to kill lesser provisions,

such as increased taxation of foreign subsidiaries of U.S. companies.

Putting on a game face, many White House officials vow to redouble their efforts to pass their main budget package. "What we're worried about is protecting as many of the President's priorities as we can," says White House Communications Director George Stephanopoulos. "And we're going to fight for every bit of the President's program we can get through this process." But the White House will most likely settle for some summer jobs, childhood vacci-

LOSE NEW TAX EXEMPTIONS

A tax on the heat content of most fuels would generate \$73 billion through 1998. Powerful lobbies

are already forced modification, and revenues estimates will drop more, as loopholes creep. Republicans plan to remind Clinton the levy violates his pledge not to raise taxes on the middle class.

RAISE CORPORATE TAX RATES

Hiking the corporate rate to 36% is unpopular with business. It may be modified to a 35% rate, especially if

the investment tax credit is dropped. Other provisions—denials for deductions for lobbying expenses and club dues, and a limit on entertainment write-offs—will generate fierce opposition.

TAX SOME SOCIAL SECURITY BENEFITS

The proportion of Social Security benefits eligible for income taxes will go to 85% from 50% for retirees making more than \$25,000. Republicans and some Demo-

crats up for reelection will try to paint themselves as friends of the elderly by opposing this provision.

the suggestion that a generous benefits package can be paid for by government-imposed price caps. "I don't want to see wage and price controls," Treasury Secretary Lloyd M. Bentsen told **BUSINESS WEEK** in an early April interview. "I don't think you could have price controls across the board effectively."

The enormous difficulty of enacting health-care legislation greatly complicates the Administration's political strategy. With the budget debate likely to continue into summer and with the controversial North American Free Trade Agreement next in line, the circuits on Capitol Hill are dangerously close to being overloaded. That's why Budget Director Leon E. Panetta suggests deferring both health reform and NAFTA until tax and spending legislation is complete. And while U.S. Trade Representative Mickey Kantor is pushing for early action on NAFTA, Bentsen is urging Clinton to hold off until fall.

NERVOUS DEMOCRATS. For the moment, Republicans are reveling in the Democratic disarray. And they think they can score by attacking both tax increases and new spending in the budget. "Democrats are getting nervous that people are beginning to understand what's in the plan," says Senator Phil Gramm (R-Tex.), "and the plan is not defensible." When the legislation hits the Senate floor, Gramm plans to make Democrats squirm by offering an amendment requiring that "no tax shall go into effect until spending has been cut by at least an equal amount."

But the GOP's scorched-earth strategy carries risks. "The Republicans look like the guardians of gridlock," says Melissa Line, a political scientist at Goucher College in Baltimore, Md. "The more they whine and carp, the more the American people will be turned off." Indeed, a poll by Republican Ed Goetas and Democrat Celinda Lake shows Clinton with a wide lead over congressional Republicans when voters assess his ability to create jobs, reduce the deficit, and cut government waste.

After just 100 days, it's way too early to count Clinton out. The President "has proven to be a fast learner over the years, and he learns from his mistakes," says Republican consultant John McLaughlin. "Instead of using the big stick, you'll now see him trying to divide and conquer among the Republicans and appease a lot of the conservative Democrats." Should Clinton follow his wiser instincts, his first defeat could prove to be nothing more than a painful, but useful, learning experience.

By Paul Magnusson, Richard S. Dunham, and Susan B. Garland in Washington, with bureau reports

RESIGNATIONS



KAY WHITMORE

"It was clear we weren't agreeing on a lot of things," says Whitmore of Steffen's turnaround plans

THE REVOLUTION THAT WASN'T AT EASTMAN KODAK

Its high-visibility turnaround expert overestimated his power—and left

Attendees at a mid-March Eastman Kodak Co. dinner in Boston could be forgiven if they emerged confused about who was running the company. The host was Christopher J. Steffen, Kodak's highly touted new chief financial officer. A veteran of turnarounds at Chrysler Corp. and Honeywell Inc., Steffen in January had managed to boost Kodak's market capitalization by \$2 billion just by joining the company.

In the flesh, the new CFO wowed his audience of big shareholders with bold promises to shake up the sleepy photography giant. But there was scant mention of Kodak Chairman Kay R. Whitmore. Steffen "was positioning it as his plan, not necessarily his and Whitmore's," says an investor who was there.

But back in the privacy of Kodak's Rochester (N.Y.) headquarters, Steffen was discovering that Whitmore had other ideas. "Chris wasn't the plan, he was part of the plan," Whitmore now says. The two men clashed repeated-

ly over the approach to be taken, as executives feverishly worked to ready a restructuring program for later this summer. Whitmore says the CFO's turnaround ideas focused only on restructuring Kodak's finances and didn't address larger strategic issues. "I was trying to match up his ideas about financial restructuring with business issues," says Whitmore. "It was clear we weren't agreeing on a lot of things."

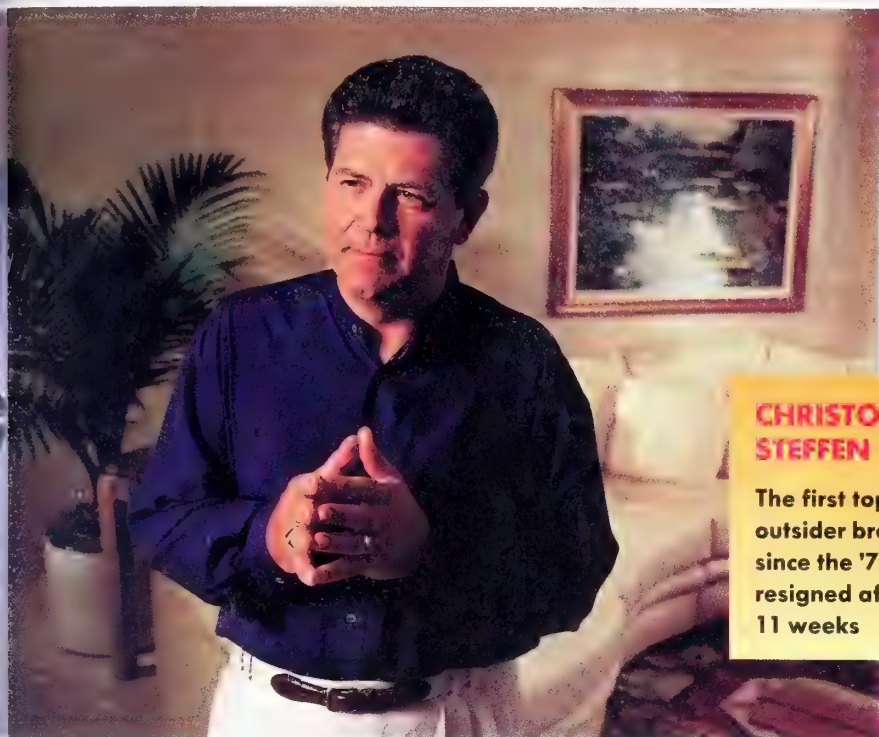
So, on Apr. 27, after yet another contentious meeting, Steffen walked into Whitmore's office and resigned. Whitmore says that he and other top executives tried to dissuade him, but Steffen was adamant. "I would have done a lot to not let this happen," says Whitmore. "It is extremely disappointing."

The abrupt end to Steffen's meteoric 11-week career at Kodak was given a big thumbs-down on Wall Street. Concerned that Steffen's departure means that Kodak isn't ready to embrace tough measures, investors pounded Kodak's stock down by 11%, to 47¼, on Apr.

KODAK TAKES A POWDER



DATA: BRIDGE INFORMATION SYSTEMS INC.



CHRISTOPHER STEFFEN

The first top executive outsider brought in since the '70s, he resigned after just 11 weeks

Kodak would no longer count on growth in photography. Investors loved it, and the stock soared.

Many Kodak insiders expected Steffen to have trouble adapting to Kodak's peculiar culture. Nurtured by more than a century of residence in Rochester, where managers have little chance to mix with counterparts from other companies, Kodak had become extraordinarily inbred. Many employees' lives revolved around company social events. Inside Kodak, consensus became the norm, confrontation frowned upon.

Into this entrenched culture stepped Steffen, who in his previous CFO role at Honeywell had chopped thousands of jobs, shed a big division, and cut millions in wasteful spending. Given the huzzahs that greeted his arrival, perhaps he overestimated his power. He

made no secret of his belief that Whitmore was under fire. "It tends to get management's attention when guys like [GM's] Bob Stempel or [American Express'] Jim Robinson are unemployed," he told BUSINESS WEEK in mid-January.

'VIBES.' Even before starting at the company, Steffen announced some specific targets for items such as Kodak's debt-to-total-capital ratio. The targets were new to Wall Street analysts, and they essentially committed the company to selling a major division. "I got some vibes that Steffen as CFO was taking on a larger-than-CFO role," says an institutional investor.

Although many shareholders are now after Whitmore's hide, most insiders and Kodak watchers believe the board will back Whitmore for now. Kodak may be troubled, but it's no basket case. Meanwhile, Whitmore plans to hire another outsider as CFO. The question is, after the Steffen debacle, who'd take the job?

As for Steffen, who has jumped from one company to another in his rise up the corporate ladder, his high-profile tenure at Kodak may actually enhance his career. The day he resigned, IBM's stock advanced 1½ points on rumors that Steffen would become its new CFO. If the aggressive stance he took at Kodak is any indication, however, Steffen may be looking only for a CEO job.

By Mark Maremont in Boston, with Elizabeth Lesly in New York

(chart). "The conclusion you have to reach is that, without Chris Steffen, this management won't deliver," fumes B. ex Henderson, an analyst at Prudential Securities Inc., who says that he lifted his "buy" recommendation on Kodak "within 30 seconds" of the resignation announcement.

PENSIVE BETS. The departure of the airman's handpicked turnaround specialist turns up the heat on Whitmore to scorching level. A Kodak veteran, Whitmore has been struggling to reemph the company since taking the helm in 1990. He has placed big, expensive bets on new technologies, such as photocopiers, that have yet to pay off. Until early this year, Whitmore was giving poor reviews by analysts and big shareholders. Among the complaints: growth in Kodak's core photographic market had slowed in the mid-1980s. But Whitmore and other executives didn't hack away at Kodak's bloated cost structure and spent heavily on marketing in a failed attempt to stimulate growth.

A \$1.6 billion restructuring in 1991, intended to eliminate excess costs, turned into a minor fiasco. The early-restructuring program was generous that nearly 100,000 employees were laid off, and Kodak had to hire new bodies. What's more, Kodak's

earnings didn't improve despite the restructuring. Last year, profits were \$1.06 billion on revenues of \$20.2 billion—only marginally ahead of the 1991 figure, before charges, and well below 1988's profits of \$1.4 billion on \$17 billion in sales. The board showed its displeasure by slashing Whitmore's bonus last year by 70%, to \$140,000.

Under fire from shareholders and an increasingly restive board, Whitmore suddenly changed course early this year. The first sign came in January with the hiring of Steffen, the first senior outsider to join the insular company in two decades. Whitmore quickly followed up with vows to focus the company on building shareholder value. He decreed that top executives would have to buy large amounts of Kodak stock. And he pleased Wall Street by proclaiming that



KODAK IS STILL WAITING FOR A PAYOFF FROM ITS PHOTO-CD TECHNOLOGY



CAN WESTINGHOUSE RESIST PRESSURE FROM SHAREHOLDERS TO PICK A TOUGH OUTSIDER?

THE KING IS DEAD. LONG LIVE THE ACTING KING

The Westinghouse CEO search goes on, but Gary Clark is digging in

In the Pittsburgh headquarters of Westinghouse Electric Corp., they call him the Clark bar. The nickname fits. Acting Chief Executive Gary M. Clark is chunky, low-key, genial, and—like the city's own candy bar—a Pittsburgh fixture. As he strolls around the 23rd floor, the 36-year Westinghouse vet has a smile and a first-name greeting for everyone he sees. His style is in sharp contrast to that of Paul E. Lego, the Westinghouse CEO ousted in January after a stormy two and a half years at the helm. But nice guy that he is, Clark has been dismissed as no more than a fill-in—"a Gerald Ford clone," as a former Westinghouse executive puts it.

Now, it looks as if Westinghouse watchers may have underestimated Clark. The company's board is having trouble snaring a strong outsider, and Clark is making a play to win Westinghouse's top job for good. Under Clark, Westinghouse's stock has climbed from its all-time low of 9% in November to 15 in late April. A major reason for the improvement is a timely real estate deal Clark pulled off in early April: He sold \$1 billion

in Westinghouse Credit Corp. assets to a partnership formed with Lehman Brothers. "Back in January, I don't think Gary would have given a dime for his chances," says a former associate. "That's changing."

Not that the board, headed by former Amoco Corp. Chairman Richard M. Morrow, isn't looking around for outside candidates. But his headhunter, Gerard R. Roche, the hotshot chairman of Heidrick & Struggles Inc., has failed to find a good match, sources close to the board say. The problem, they say, is a lack of consensus about what the board wants in its new CEO. The status quo, which favors Clark, would continue the slow sale of assets outlined by Lego last No-

vember, shrinking Westinghouse from \$12 billion to an \$8 billion company. That would offset the \$5 billion in charges against earnings the company has taken over the past two years for bad loans and real estate losses.

But it's not clear that the board can withstand pressure from some aggressive Westinghouse shareholders to choose a new leader who will slash costs, spin off divisions, and drive up the stock far higher than Clark has. Only an outsider, says Florida turnaround consultant Eugene Finken, can breathe life into the company, breaking up its clubby culture. "It's like GM," says Finken. "They have a bureaucratic mentality and act like a government, not a company." **BIG QUESTIONS.** The board toyed at first with hiring Vincent A. Sarni, who is retiring this summer from the top job at PPG Industries Inc., just two blocks from Westinghouse. But the 65-year-old Sarni, who hobnobs regularly with Westinghouse execs, hardly qualified as an outsider, say sources close to the board. Sarni declines to comment.

Talks with Paul G. Stern, the tough cost-slashing CEO of Northern Telecom Ltd., have also gone nowhere. Stern says one source close to the board, wary of the prospect that Westinghouse might have to shrink for three or four years before it could start growing again. And his take-charge attitude came across to the board as abrasive. Stern also declines to comment.

Murrow promised at the company's Apr. 28 annual meeting to come up with a replacement "within the next several weeks." But Clark has already had plenty of time to make his mark. He has put his own team into place. He also fired two of Lego's top cronies, Vice-Presidents Eileen P. Massaro and Anthony J. Massaro Jr. His real estate deal with Lehman also boosted his standing. The deal isn't closed, but it promises to net some \$750 million—in time to meet debt payments due this summer.

Plenty more such financial tinkering still lies ahead for Westinghouse. The company also faces crucial strategic decisions, such as whether to stay in its \$2.9 billion defense-electronics business or invest that money elsewhere. These are big questions. But don't expect answers until Westinghouse has a CEO without "acting" before his or her title.

By Stephen Baker with
Keith L. Alexander
Pittsburgh



UNDER CLARK (LEFT), WESTINGHOUSE STOCK IS UP. NORTHERN TELECOM'S STERN AND PPG'S SARNI NO LONGER SEEM TO BE IN THE RUNNING FOR CEO

NUCLEAR FUEL RODS ALONG THE SAND DUNES?

Michigan utility plans to store waste above ground. It's not alone

Just north of the small town of Covert, Mich., Consumers Power Co. officials and environmental activists are locked in battle that marks a new phase in the nation's long-running struggle over nuclear power. The company's Palisades power plant reactor needs refueling. But the utility has no more room for the spent fuel rods it must place in its water-filled storage pool. So Consumers is taking advantage of a 1990 Nuclear Regulatory Commission rule that lets utilities store waste above ground without agency review. Palisades officials plan to transfer older radioactive fuel rods from its storage pool into concrete and steel silos called "casks" on a site overlooking Lake Michigan.

Unless demonstrators, who have brandished banners proclaiming "We Don't Want Your Risk(ets)," find some way to stop the utility, it will start moving the fuel into the 16-foot-tall, 130-n containers on May 7. Such moves are sure to become increasingly common. Over the next decade, nearly half of the nation's 109 operating nuclear plants will run out of space in water-filled storage pools and be forced to consider aboveground storage.

The Palisades plant is causing a stir because it is the first to exploit the 1990 NRC rule, which doesn't require utilities seek approval for waste-storage sites as long as the waste is stored in an approved container. Before 1990, five other utilities had received the agency's OK for above-ground storage—but only after a lengthy and exhaustive analysis of each site.

DON'T WASTE DUNES? Now, environmentalists worry that the plants will be using improved technology to store dangerous nuclear waste. What's more, Palisades opponents claim that the NRC's new procedure doesn't provide adequate safeguards. In this case, the casks will be located 160 yards from Lake Michigan on sand dunes vulnerable to erosion. "This is just about as sensitive an area as you could find," declares an outraged Mary Sinclair, chair of Don't Waste Michi-



OUTRAGED: PROTESTERS AT THE PALISADES PLANT

gan, a group opposed to the new facility.

The storage casks are an interim solution to a problem that was never supposed to occur. Construction of a permanent storage repository for utilities' highly radioactive spent fuel was supposed to have been under way years ago. But environmental concerns and political opposition have prevented action. Under current law, the federal government is supposed to take possession of all spent fuel in 1998 and have a permanent storage site ready by 2010. The Energy Dept. has spent more than \$3 billion studying a permanent repository deep under Nevada's Yucca Mountain, but that effort has been blocked by

technical difficulties and the fierce opposition of the state's politicians.

Energy Secretary Hazel R. O'Leary, who had to deal with the storage shortfall as an executive of Northern States Power Co. in Minnesota, has promised to review the government's nuclear waste program. But ending the impasse over long-term storage does not appear to be a high priority for an Administration preoccupied with other issues. A permanent solution is decades away.

In the meantime, utilities are stuck. The waste, now about 30,000 metric tons, is projected to rise to nearly 88,000 tons by 2030 (chart). Almost all the spent fuel sits in water-filled pools designed to cool the radioactive waste. These pools, which were supposed to be temporary storage, are running out of room. Utilities such as Consumers Power are "between a rock and a hard place," complains company spokesman Mark Savage.

CONCRETE SOLUTION. That's why Consumers Power opted for the new designs. It chose a cask, manufactured by Pacific Sierra Nuclear Associates of Scotts Valley, Calif., that received approval from the NRC only on Apr. 7. A spokesman for Consumers Power says the concrete-and-steel containers cost some \$500,000 apiece, compared with up to \$3 million for competing designs. Building new storage pools would be even more expensive.

At least two more utilities are planning to use the Pacific Sierra casks. NRC Chairman Ivan Selin, a holdover Bush appointee, defends the Pacific Sierra cask, noting it has undergone extensive safety tests and can store high-level radioactive waste for up to a century. "We shouldn't have to worry about them deteriorating before a [permanent] repository is built," says Selin.

Environmentalists and Michigan officials, who don't share Selin's confidence about permanent storage, want to block use of the new facility—at least until the NRC reviews the site. The state attorney general's office, which unsuccessfully sought an NRC public hearing, is considering other legal options.

Consumers Power officials need some place to put spent fuel when they recharge the Palisades reactor in June. "We're a symptom of a larger problem," says Savage. The real difficulty remains: finding a permanent place to put the radioactive waste, which will be around for thousands of years. Until the political system faces up to the challenge, the Palisades predicament will be repeated at nuclear plants across the nation.

By Mary Beth Regan in Washington

MOUNTAINS OF WASTE

High-level radioactive nuclear-plant waste in the U.S.

= 10,000 METRIC TONS

DATA: ENERGY INFORMATION ADMINISTRATION





IBM THINKS ZSCHAU'S INDEPENDENCE AND ACUMEN COULD HELP REVIVE THE COMPANY

ED ZSCHAU DOESN'T FIT BIG BLUE'S MOLD—AND THAT'S THE POINT

Adstar's singing CEO is bringing entrepreneurial spark to IBM

Call him the Singing CEO. Ed Zschau loves to write and sing his own songs. And he'll do it for just about any occasion. He wrote a company song for System Industries Inc., the computer disk-drive company he started in 1968. Later, he penned campaign tunes for his congressional and U.S. Senate races. Back in 1978, while lobbying Congress to reduce capital-gains taxes, he sent every senator and representative a tape of his off-key ditty *The Old Risk-Capital Blues*, which pleaded his cause. Recalls Zschau: "They passed the bill—in spite of the song."

Zschau's next composition may have a few verses about Big Blue. On Apr. 23, IBM tapped Edwin Van Wyck Zschau (pronounced "shout," without the t) to head Adstar, its \$6.1 billion maker of disk drives and other computer data storage gear. As the world's largest such company in a fast-growing market, Adstar is one of IBM's prime hopes for a turnaround. Louis V. Gerstner Jr., IBM's new chief executive, knows Zschau only by reputation, but evidently considers him the right man for the job. He phoned Zschau to urge him to take the IBM job just one day after taking Big Blue's helm.

With no experience at a large company, the 53-year-old doesn't exactly fit the

Big Blue mold—which is just the point. Like the rest of IBM, Adstar needs the extra spark that a seasoned entrepreneur like Zschau can bring, computer industry watchers say. The unit lost \$265 million last year, mostly because of restructuring charges, and it is still moving too slowly. Says Zschau: "I want to unleash the latent entrepreneurial spirit here."

Zschau has the right credentials for that. An Omaha native, he has one of Silicon Valley's most eclectic résumés. He collected a BA in philosophy (thesis subject: the philosophical implications of Einstein's theory of relativity) from Princeton University before heading to California. He added an MBA and a PhD in business management at Stanford University, but a bent for the mechanical inherited from his engineer father eventually got the better of him. So in 1968, while teaching business at Stanford, he started System Industries, an information-storage company, and built its sales to \$75 million before leaving in 1982 to run

for Congress. For the past five years, he has been CEO of Censtor Corp., a small company that develops computer disk-drive technology.

Adstar could use some small-company zip. IBM clearly didn't think Ray Abu Zayyad, Adstar's general manager under IBM, was getting the job done. He now becomes president, reporting to Zschau. AbuZayyad cut costs and began selling more drives outside IBM's traditional customer base, including a large contract to supply Apple Computer Inc. And thanks to steep price cuts, he helped push up outside sales 64%, to \$450 million last year.

But analysts say Adstar still has a lot of work to do. Its core market in drives for big mainframes is shrinking, which caused overall sales to drop last year. And despite two rounds of job cuts, analysts suspect that Adstar still loses money on its smaller drives, where its share ranks behind rivals (chart).

'NEW CULTURE.' How does Zschau plan to get things on track? For starters, he will try to win over computer makers that have always bought from rivals such as Conner Peripherals and Seagate Technology. He even plans to sell directly to PC owners via mail orders. He also hopes to accelerate development of smaller drives for desktop computers. To do that, he says he'll use new ways to manufacture the drives—going outside IBM for parts if it's cheaper. "He's a very creative supporter of new technologies," says Novell Inc. Chairman Ray Noorda, who knows Zschau.

Zschau should bring intensity to his new job. He demonstrated plenty as a two-term Republican representative from Silicon Valley in the mid-1980s. Kenneth Hagerty, a public relations guy who knows Zschau, remembers that he often asked such difficult questions of committee colleagues that they stopped coming to meetings. A moderate, Zschau also sometimes bucked his party, yet got colleagues to back his pet initiatives. In 1986, he challenged Democrat Alan Cranston for his Senate seat and lost by just 1.5% of the vote.

Even Zschau admits that Adstar will be a big challenge for someone used to small companies. But he figures his political skill will come in handy in maneuvering IBM's bureaucracy. He'll need those talents and more to reach his goal: getting IBM to move to a faster beat.

By Robert D. Hofmann
San Francisco

WHERE ADSTAR STANDS

1992 WORLDWIDE
HARD-DRIVE MARKET SHARE



MAKING LIBERTIES IN LOS ANGELES

Mayoral candidate Riordan may be exaggerating his business successes

Richard J. Riordan, the wealthy Los Angeles businessman who wants to be the city's mayor, is doing his best Ross Perot imitation. Dressed in a tailored blue suit, he's trying to convince his audience of mostly poor, elderly blacks in a South Central retirement home that his business successes will mean a difference in their lives. "I turned Mattel and other businesses around," Riordan proclaims. Now, it's time to turn L.A. around." The response is underwhelming. A smattering of applause flutters through the meeting room, but before long the skeptical audience drifts toward the coffee and doughnuts on a table in the back.

In a 37-year business career in which he became wealthy by investing in high-risk ventures, Riordan has faced few challenges that match his latest. By June 8, when Los Angeles holds its mayoral runoff, the 62-year-old lawyer must persuade voters that a city wracked by crime, unemployment, and racial strife could elect a white conservative Republican who made a fortune together with the likes of junk-bond king Michael R. Milken. Riordan led 24 candidates in the pr. 20 primary with 33% of the vote, but now he faces an uphill race.

Riordan's opponent, 41-year-old Michael Woo, a Chinese-American city council member, is preaching racial harmony and has spent years building an agile coalition of blacks, Asians, and liberals. And while he promotes business development, Woo often notes that he is among the first to call for the resignation of Police Chief Daryl F. Gates after the police beating of Rodney G. King in 1991.

BUYS AND DOLLS. Riordan is relying partly on \$3 million of his own money that he funneled into his campaign to overcome the two-to-one Democratic majority in Los Angeles. And he hopes his pro-business views will play well in a city where unemployment hovers at nearly 11%. To lure employers, he would use environmental rules. To fight crime without raising taxes, he proposes leasing Los Angeles International Airport to a private operator and using the rent to hire 3,000 police officers—a 40% boost. Riordan made his fortune in the 1970s and 1980s by investing in such high-tech companies as pioneering workstation maker Convergent Technologies Inc. In the early 1980s, he formed a leveraged-

buyout firm that invested in health care, real estate, and grocery-store chains—and made Riordan an estimated \$100 million fortune.

The centerpiece of his campaign, however, is his claim to have turned around Mattel Inc. But Riordan never actually laid a hand on the toymaker. He was just part of an investment group including Milken's firm, Drexel Burnham Lambert Inc., that plunked down \$231 million

shipped jobs to Mexico. "He got rich by putting people out of work," says a Woo spokesman. Jadine Nielsen, Riordan's campaign manager, calls the charges "irresponsible," adding that Riordan's investments have created 10,000 jobs.

PLUM JOBS. There's one part of Riordan's business record that's uncontested—his skill as a back-room dealmeister. After he lent Democratic mayor Tom Bradley \$300,000 for his unsuccessful 1982 gubernatorial bid, Riordan won plum assignments to negotiate for the city. He bought up railroad rights-of-way for a commuter-rail system. And he kept the Los Angeles Raiders football team from leaving town by renovating the Los Angeles Coliseum. "For years he functioned as the co-mayor of L.A.," says Assemblyman Richard Katz.

To become the real thing, Riordan has



**CAN BUSINESS SAVVY
STOP THE STRIFE?**

RICHARD J. RIORDAN

BORN May 1, 1930, Flushing, N. Y., youngest of eight.

EDUCATION Princeton, 1952, AB in philosophy; University of Michigan 1956, JD.

CAREER PATH Corporate lawyer, venture capitalist, real estate investor, junk-bond player with Drexel's Michael Milken.

PUBLIC-POLICY EXPERIENCE Helped negotiate agreement to renovate Los Angeles

Coliseum, keeping the Raiders football team in town. Negotiated \$550 million deal for local governments to buy 400 miles of railroad tracks for use in light commuter rail.

POLITICS Eisenhower Republican, pro-choice. Pro-term limits.

CAMPAIGN PLEDGE To add 3,000 policemen to L.A. force, funded by leasing Los Angeles International Airport.

DATA BUSINESS WEEK

in 1984 for a 45% stake in the ailing company. As a director, Riordan did vote to install Vice-President John W. Amerman as chairman and chief executive. But it was Amerman who turned Mattel around with aggressive cost-cutting and rejuvenated marketing of its franchise Barbie doll.

Bragging about his record at Mattel may hurt Riordan. Woo points out in his TV ads that after Riordan's investment, Mattel closed two L.A.-area plants and

to make rank-and-file voters believe he cares as much about them as he does about flashy deals. "He's just like any other rich man," says one woman leaving the meeting at the South Central retirement center. "He's got all the money, but what can he do for us?" Riordan knows he can't win unless he does a better job answering that question than Ross Perot did in November.

By Eric Schine with Becky Johnson in Los Angeles

Commentary/by Judith H. Dobrzynski

ANNUAL MEETINGS DON'T HAVE TO BE A WASTE OF EVERYBODY'S TIME

Annual meetings," growls one top chief executive, "should be held in a phone booth."

So much for the one legal requirement for potential personal contact between the users, the providers, and the guardians of capital in Corporate America. Warren E. Buffett may glory in Berkshire Hathaway Inc.'s yearly rite of spring, but most other chief executives and shareholders have written off these gatherings completely. As for directors, they have been known to sit in the front row, fast asleep.

Annual meetings are a farce because they have been taken over by gadflies who press their personal concerns: When will the meeting be held in their hometown? How can their car defect be fixed? Why can't they find a product in some small outlet? These antics leave little room for serious discourse—such as questions about performance. For its part, management often wastes time with slick corporate histories and videos of operations. "The only thing that can happen at an annual meeting is damage," says a CEO who sits on three boards. "You try to get through it without anything happening. There's only downside." He would like to abolish them completely, "except that it would be misconstrued."

TWO TIERS. Maybe annual meetings could be made more useful. In recent years, the dynamics of stock ownership have changed dramatically, as pension and mutual funds have replaced individuals as the key source of capital. Companies should try to draw these larger shareholders to their meetings. And these investors should want to go, not just when there's poor performance. The trick is to accomplish this without alienating the employees, retirees, and individuals who now regularly attend.

For a start, because institutions tend to be more sophisticated owners, management should trim the slick presentations to allow more time for real questions. Much of the data presented is already public and months old, covering the previous year. If management

must do a presentation, it should focus on current results.

Companies might also try premeeting meetings for very large investors. Often, as few as a dozen institutions own 40% to 50% of a company—they have a right to tell management what's on their mind. This forum needn't touch on inside information, causing trading problems. Those concerned that the rights of individual investors might be abused should consider that big shareholders already get more information, earlier, than individuals. "Lots of companies fax press releases to large holders, while individuals read the news the next day in the newspapers," notes one securities lawyer.

And why should institutions spend money trekking to Oklahoma City or Tampa or Seattle if a company is doing O.K., particularly if they invest in thousands of companies? Perhaps they shouldn't. Here's where technology can help: Companies could experiment



with teleconferencing their meetings.

To offset the added expense of teleconferencing, companies might consider cutting back on the goody bags they pass out each year to meeting attendees. Bribing shareholders with corporate products not only appeals to the kooks but also is wasteful.

Revamping annual meetings won't fix all the communications problems between shareholders, directors, and management. But there's little question that the meetings are still stuck in the past. It's time to transform them into a real forum for communication.

Dobrzynski covers shareholder issues for BUSINESS WEEK.

ANNUAL MEETING



BUFFETT CAJOLE THE FAITHFUL AT BORSHEIM'S JEWELRY STORE

WARREN'S WORLD

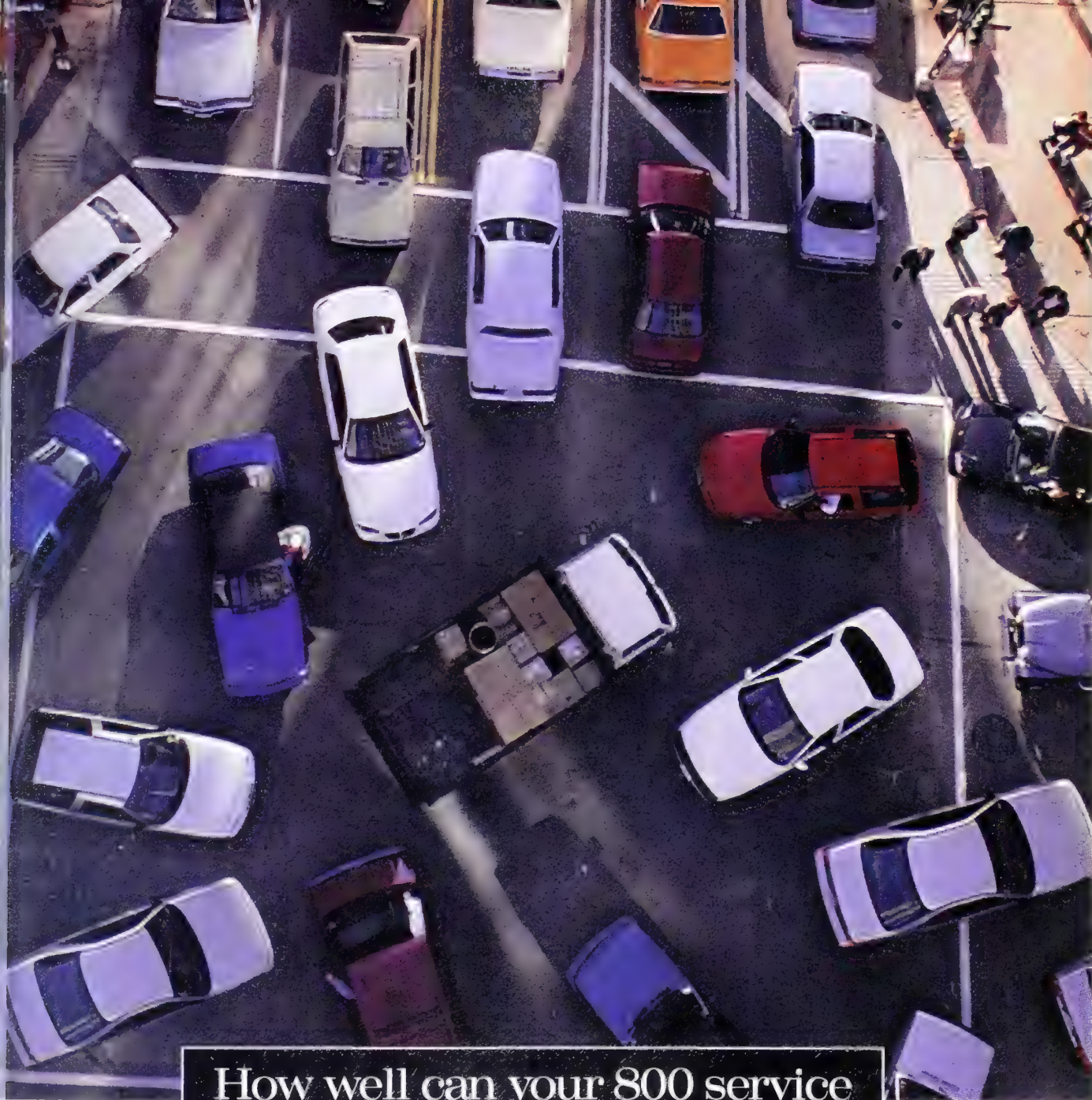
Berkshire's annual meeting has single-star: CEO Buffett

Just after 9:30 a.m. on Monday, April 26, Warren E. Buffett walked onto the stage of Omaha's Orpheum Theater, sat down at a table with his partner, Charles T. Munger, and opened the annual meeting of Berkshire Hathaway Inc. For three and a half hours, the multibillionaire fielded questions from a 2,200-strong audience that included former Federal Communications Commission Chairman Newton N. Minow, Chicago billionaire Lester Crown, the parent of Microsoft Corp. founder William H. Gates III, various money managers, and plenty of just plain folks.

This is not your typical company's annual meeting. The business is over in 90 minutes. Then, it's part lovefest, part investment seminar, part... *sui generis*. What other CEO, greeting shareholders, would be besieged for his autograph? Besides the fun—such as a Sunday brunch for 150 "out-of-town friends" and knocked-down prices, champagne, and hors d'oeuvres for all at Borsheim's Berkshire's jewelry store—shareholders come for Buffett's wit and wisdom.

Even if they've heard it before. When a shareholder noted Berkshire's \$12.50 price and asked about a split, another whispered, "Here comes the pizza story." Buffett said that the price speaks to the "question of who we want as shareholders"—namely, those who have the same time horizons as his. Then, he told of the diner who tells a pizza maker to cut his pie into four, not eight, slices, since "he couldn't possibly eat eight."

A dozen years ago, Berkshire's conference drew a dozen or so shareholders. Now it's a mecca for the company's most



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Top of the News

individual investors. This year, Milton Macken, who owns six shares, came from Santa Cruz, Calif., to his first-ever annual meeting: "He's an interesting man, and I wanted to hear what he had to say." Many are veterans, coming again and again to the meetings.

Buffett usually lets a young shareholder ask the first question. This year, Douglas Reed, 17, who owns 60 shares and whose father, William G. Reed, is a Microsoft director, asked why Berkshire didn't have a larger international component. Buffett pointed out that many of its stakes, such as Coca-Cola Co., do a lot of business overseas, and he mentioned the tax disadvantages of foreign investments. Then, he passed the ball to

Vice-Chairman Munger, who said: "I've got nothing to add." Rejoined Buffett: "Sometimes he subtracts."

And so it went. What would the syllabus for an investment class he taught include? Is the stock overvalued, since Buffett has forecast lower returns in the '90s? Will generic goods hurt Coke? Will Lloyd's of London's troubles influence Berkshire's insurance business?

NO INSIDE TIPS. Most of the answers are in the annual report or in Buffett's value-investment credo. The Oracle of Omaha strives not to reveal anything that could be a stock tip. One questioner, noting a government filing, did elicit the fact that Berkshire would set up a life insurance company "very soon."

Berkshire's annual meeting is no paradigm for Corporate America. Nor are its other governance practices—Buffett picks its four other directors, and the board meets in person just once a year. Buffett escapes complaint because he owns almost 45% of a company whose stock consistently outperforms the Standard & Poor's 500-stock index by far. And Berkshire's meeting does have one big plus. Shareholders attend not only when they want to complain, as at most big companies, but also when they just want to know more about their investment. "They come because we make them feel like owners," Buffett declares. Nowadays, that's no small feat.

By Judith H. Dobrzynski in Omaha

LANDMARKS

EMPTY WINDOWS ON THE WORLD?

The New York eatery's doors remain closed—maybe for good

It was lunchtime at Windows on the World, and Bryan Musso was ready to dine in style. "We were all pretty excited about it," he says. But just as the 22-year-old New Orleans native and his Dean Witter Discover & Co. cohorts sat down to eat on Feb. 26, a terrorists' bomb blew out the World Trade Center's parking garage, shutting down the twin-tower complex and its glassy restaurant in the sky. Musso spent the rest of his day walking down 107 flights of stairs.

Musso would like to go back, but he can't get a reservation. While most tenants in Tower One have returned to their digs, Windows remains empty, its renowned wine cellar corked. The Port Authority of New York & New Jersey, which owns the Center, says it won't allow the top-floor eatery to reopen until major changes are made—probably including new management.

The problem? Windows on the World hasn't paid rent in at least a year, according to the Port Authority, which leases the dining space to Inhilco, a unit of Hilton International Corp. Under the terms of the lease, Inhilco pays rent only if it turns a profit—and it hasn't lately.

FALLEN SOUFFLE. Though it ranks as the third-biggest-grossing independent restaurant in the country, according to the trade magazine *Restaurants and Institutions*, Windows' sales have fallen like a bad soufflé. In 1992, the restaurant pulled in \$18 million, down from a peak of about \$25 million in 1987, says the Port Authority. "After 18 years, it's out-



THE PORT AUTHORITY IS DISPLEASED WITH HILTON, WINDOWS' CURRENT MANAGER

lived its life cycle," says Randall Hiatt, president of Fessel International, a consultant the Port Authority hired last year to try and revive the restaurant.

When it opened in 1976, Windows on the World reigned as Manhattan's restaurant of the moment. But by the early '80s, its food and service had slipped. Today, although more than 400,000 visitors revolve through its doors yearly, the restaurant is largely dismissed by savvy New York eaters. The *Zagat New York City Restaurant Survey* awarded Windows just 16 out of 30 possible points for food (Papaya King, a hot dog stand, got 17) and 19 for service.

Meanwhile, the multi-terraced decor seems as dated as an eight-track tape. "A restaurant with the visibility of Windows should be a trendsetter," says Michael Whiteman, a restaurant consultant and co-owner of rival Rainbow Room. "But for 10 years, it's been allowed to fritter away from the public mind."

Competitors speculate that management made matters worse by allowing staffing and overhead costs to soar. More than 260 of the almost 300 Windows employees, everyone from bartenders to captains, are unionized. And cop-

ing with rising costs of food and utilities while maintaining two floors of perched house space seems a daunting task, even to Windows' own employees. "Thank God I don't run the place," says Garret Vlad, a former floor captain.

Who will run the place remains a big question. "We're keeping an open mind and looking at all the options," says Robert Catlin, the Port Authority's manager of consumer and patron service. The agency is compiling a list of potential managers that includes Warner L. Roy, who runs Tavern on the Green, and Alan Stillman, president of the New York Restaurant Group, which operates several well-known Manhattan eateries including the Park Avenue Café. Hilton declines to comment on its discussion with the Port Authority.

Most analysts think there's enough cachet left on the 107th floor for someone to turn a profit. "If you're an out-of-towner with money, that's where you want to go," says one marketing consultant. Certainly, it's where Bryan Musso wants to go, still: "I never did actually get to try the food," he says. Someday the food may be worth his wait.

By Julie Tilsner in New York

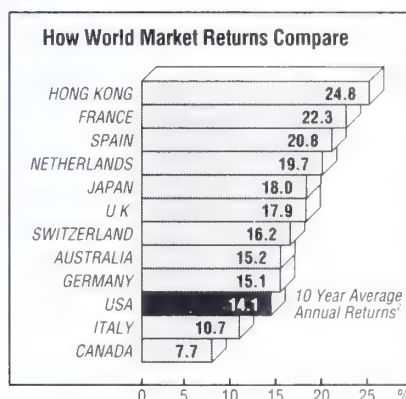
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EDITED BY THANE PETERSON

SNAP, CRACKLE, FLOP?

Makers of branded products from Marlboros to Pampers have had to cut prices to compete with no-name competitors. Are cereal makers next? After years of 5% annual price increases, hikes are slowing, but big-name cereal sales are falling.

	SALES* MILLIONS	VS. '91 PERCENT
CHEERIOS General Mills	\$299.7	-5.9%
FROSTED FLAKES Kellogg	277.4	-2.2
HONEY NUT CHEERIOS General Mills	217.5	-3.7
CORN FLAKES Kellogg	202.3	-4.6
RICE KRISPIES Kellogg	201.5	-4.3
PRIVATE-LABEL	352.4	7.4

*FOR THE 52 WEEKS ENDED MAR. 21
DATA: INFORMATION RESOURCES INC.

with its players, now is trying revenue-sharing of a different sort. NBC announced on Apr. 28 that it's paying some \$750 million to renew its four-year deal with the NBA. That's 25% more than it paid to snag the NBA in 1989. NBC is so sure it will turn a profit—even with the fat contract—that it also has agreed to share half of its game ad revenues with the NBA once the network reaches an agreed-upon profit level.

BIG SPENDERS AT THE EBRD

► Oh, those high-living Europeans! Alleged heavy spending at the European Bank for Reconstruction & Development is threatening U.S. support for the institution, created to promote development in the former communist states. The U.S. is supposed to come up with an additional \$70 million in capital. But key senators told Treasury Secretary Lloyd Bentsen that the money is in peril unless the bank slashes its lavish spending on staff and facilities.

NOW THE SEARS CATALOG GETS RESPECT

► Some people are more fondly remembered in death than in life. That appears to be true of the Sears Roebuck catalog, too. Sears says that

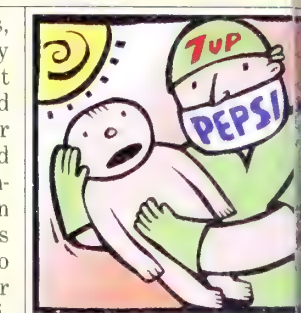
In the world of baby bottles, wild and crazy ideas are usually not part of the formula. At least not until Steven Dunn founded Munchkin Bottling. The former venture capitalist persuaded PepsiCo and Dr Pepper/Seven-Up to let him use their logos on his baby bottles. Now, Dunn is shipping 75,000 bottles a day to Kmart, Woolworth, and other national chains. Bradford Licensing Associates, Pepsi's licensor, says Munchkin is now cola giant's top U.S. licensee.

Is this the ultimate in cynical get-'em-while-they're-you marketing? Naw, says Bradford executive Fran Adams. "This is not an invitation to give children Pepsi," she says. "It's just fun." Pepsi says its research shows that parents don't mind all seeing the logo of a mass-marketed, caffeinated, sweeter beverage in the nursery. Gee. How about a team-up between Pampers and Guess? Jeans? Maybe Pizza Hut pacifiers?

halfway through its closeout "sale of the century," the catalog is fielding 1 million calls a day, double the traffic usually handled during the frantic Christmas season. The sale ends on May 30, and the catalog shuts down later this year. Until then, callers had best be patient—scores of them are on hold at any given time. Sears has added 2,000 temporary operators to handle the load.

A BEATING FOR BAXTER OVER ARAB SUPPORT

► Since admitting it cooperated with the Arab boycott of Israel, Baxter International



has faced heavy criticism. Now, the New York Public Employees Retirement System, which holds 947,000 Baxter shares, has jumped into the fray. On Apr. 26, fund official wrote an angry letter to Baxter CEO and Chairman Vernon Loucks, demanding that Baxter officials be held responsible. The pension fund will vote against Baxter's direct nominees at the annual meeting on Apr. 30. It and other institutional investors may try to force Loucks to drop either his chairman or chief executive title.

INTERACTIVE TV IN '93

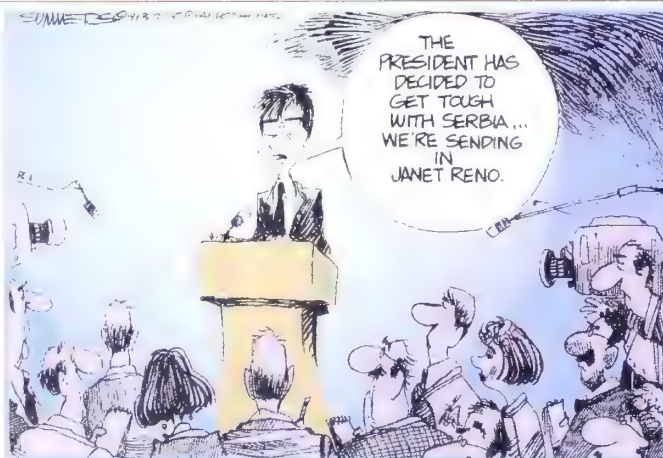
► The future is closer than you think: On Apr. 27, General Instrument, Intel, and Microsoft announced the development of a new generation of cable and satellite TV converters that will unscramble cable programs and act as a TV-top computer for interactive television—potentially allowing viewers to do things such as play along with *Jeopardy!* from their homes. The DigiCable boxes, to be unveiled late this year, will be rented out to consumers through cable operators.

READY FOR TRANSEUROPE AIR?

► Is it AirEurope in the making? Four European airlines—KLM Royal Dutch Airlines, Swissair, Scandinavian Airlines System, and Austrian Airlines—say they may form a new megacARRIER with 20% of Europe's market. Merging would save money, but some 20,000 of the airlines' 70,000 workers may have to be laid off to match U.S. staffing levels. Headquarters would likely be in the Netherlands, which has a treaty allowing carriers to fly into any U.S. city.

A SLAM-DUNK CONTRACT FOR THE NBA

► The National Basketball Assn., the first big sports league to share revenues



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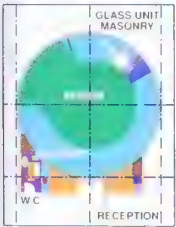
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AIRWAVES FOR SALE: CONTACT BILL CLINTON

After more than a decade of debate, it looks as if super-salesman Bill Clinton is about to pull off what his Republican predecessors never could: auctioning a chunk of the nation's airwaves for a cool \$7 billion over five years.

The idea was first pitched during the Carter Administration, but it appeared in every budget proposed by Presidents Reagan and Bush. Supporters argued that selling the spectrum not only would raise money but also would end the politicized process of government regulators granting broadcast licenses.

Every year, congressional Democrats, who believed the airwaves were akin to the national parks, killed the idea. But now, a cash-strapped Clinton has proposed his own plan to sell off part of the radio spectrum, and this time all Democrats are behind him. The idea's toughest foe, House Energy & Commerce Committee Chairman John D. Dingell (D-Mich.), finds the notion far more palatable with a Democrat in the White House. Another longtime critic, House Telecommunications & Finance Subcommittee Chairman Edward J. Markey (D-Mass.), has become a big booster. "The government is losing out on much-needed revenue," he says.

The sale would take place over several years. A bill turning 200 megahertz now controlled by the government over to private use is wending through Congress. Then the Administration would auction part of the newly available spectrum.

Most of the money would be collected through bidding on licenses for a new form of cellular communication called personal communication services, or PCS. In addition, television broadcasters might have to pay for the extra channels they would need to broadcast high-definition-TV signals. And radio stations could be required to buy spectrum space for high-quality radio broadcasts. The channels now used by radio and TV stations, and by local governments for such services as police and fire communications, would remain free.

But if the auction is a done deal, there are still key legislative battles ahead. The biggest question: How much of the spectrum will be sold? Commerce Secretary Ronald H. Brown wants to auction all new licenses. But some congressional Democrats are more cautious. Senate Communications subcommittee chairman Daniel K. Inouye (D-Hawaii) favors a relatively small test auction of 30 megahertz.

Broadcasters also will ask for an exemption. They'll claim that their service is in the public interest and that HDTV should not be treated differently from today's television. But

broadcasters seem resigned to the auctions and have focused on limiting the damage.

PAY LATER. Another looming battle: how to protect small businesses in the auction. Many fear they will be outbid by companies with deeper pockets. They also worry that their bigger rivals will buy spectrum they don't need and lock up promising markets. R. Craig Roos, president of a small New York-based wireless-phone concern called Locate Inc., says if the spectrum is sold, "small, innovative telecommunications companies will become a part of this nation's history rather than a part of its future."

The Clintonites are urging Congress to level the playing field by allowing companies to bid for a share of the airwaves by pledging future revenues, instead of up-front cash. But most other disputes will be resolved by the Federal Communications Commission, long after Congress has authorized the sales.

Will spectrum sales strengthen the big communications combines at the expense of smaller outfits and consumers? Not necessarily. Britain and New Zealand have successfully sold off part of their broadcast spectrums. And the Clintonites are determined to make the auction system work in the U.S. Even the plan's critics admit that, after all these years, it's an idea whose time has come.

By Mark Lewyn



DINGELL NOW BACKS THE PLAN

CAPITAL WRAPUP

LABOR

For unions, this year marks the best chance in 15 years to win favorable changes in the nation's labor laws. Unfortunately for the AFL-CIO, however, the best may not be good enough. The top item on labor's agenda is legislation prohibiting companies from hiring permanent replacements for striking workers. The House, which passed the measure easily in 1991, is expected to approve it again sometime in the next few weeks. But in the Senate, supporters will need 60 votes to break an expected filibuster. Last year, they fell three votes short, and they may have trouble coming that close again. In

1992, Bob Packwood of Oregon was one of just five Republican senators voting to end debate. But because unions abandoned him in his tight reelection race last year, he may not support the bill now. In addition, some conservative Democrats voted for cloture confident that President Bush stood ready to veto the striker-replacement bill. Bill Clinton could probably pull the measure through the Senate with an all-out effort. But while he's deeply in organized labor's debt, that's unlikely to happen. Deficit reduction and health-care reform remain much higher priorities for the Administration, and the President can only afford a limited investment in the labor measure.

HANNIES

The White House and Senate Democrats are close to agreement on the "nanny" issue that threatened to derail dozens of Administration subcabinet appointments. Under a policy worked out with the Senate Judiciary Committee, having failed to pay Social Security or other taxes for household help would no longer be disqualifying—as long as the nominee has made good on any payments owed. Unpaid Social Security taxes helped sink the nomination of Zoë Baird to be Attorney General and blocked the appointment of Washington lawyer Charles F. Ruff to a top Justice post.

RUSSIA

YELTSIN'S LAST CHANCE

He has little time to turn his electoral victory into concrete results



READY FOR CHANGE: UNDER YELTSIN'S PROPOSED CONSTITUTION, CITIZENS WILL BE ABLE TO BUY AND SELL PROPERTY

The Fate of Russia Is In Your Hands!" proclaimed banners stretching across the streets of Moscow and other Russian cities. What was surprising was how seriously voters took that message. In a critical Apr. 25 referendum, Russians rebuffed conservatives and gave President Boris N. Yeltsin a 58% vote of confidence. Defying expectations, 53% of voters also backed his tough economic program. The clear public mandate is a serious blow to the coalition of hard-line legislators blocking Yeltsin's reforms.

Now the big issue is how well and how fast Yeltsin can use his mandate. He is likely to accelerate the brisk sell-off of state factories and allow private land ownership. At the same time, he has to stop Russia's dramatic drop in industrial production and strengthen the

ruble, which is now worth just one-tenth of a cent. And without touching off massive unemployment, he must get a grip on an inflation that's still roaring along at 18% a month.

Most important, Yeltsin appears set to push hard for a new post-communist constitution that would vastly change how Russia operates. It would create a presidential republic, with Yeltsin at its head, and a new bicameral legislature. Elections for the new federal assembly could come as early as this fall. The trick for Yeltsin is to win backing for the new

constitution while the obstructionist Congress of People's Deputies remains the legitimate legislature. In the referendum, Yeltsin failed to win enough votes to force new legislative elections.

Voters are itching for results. Emerging from polling station No. 22, a Moscow high school, a 33-year-old construction foreman says: "I want something new. I want the reforms to move on. Yes, it's bad now. But I'm hoping it will be better." Notes Gleb Yakunin, a leader of Democratic Russia, the reform group that has backed Yeltsin since 1990: "People are saying, 'We're voting for Yeltsin,' but he doesn't fulfill the promises he made, so they won't vote for him again. It's a critical time."

ON NOTICE. Yeltsin is already asserting his newfound confidence. Within hours after his victory was announced, he put conservative critics on notice that they could hold hostage his foreign policy, which so far has been highly operative with the West. Snubbing opponents who back Serb leader Slobodan Milosevic in former Yugoslavia, Yeltsin sharply criticized militant Serbs and called for "decisive measures" to solve the conflict. Words echoed those of President Clinton, who is mulling military action. So it's not surprising that an Administration official declares himself "very pleased" at Yeltsin's victory. Now, the push is on speed up delivery of some \$43 billion in Western aid to help cement Yeltsin's position.

But foreign policy is still a sideshow compared with Yeltsin's domestic problems. To break the constitutional deadlock, Yeltsin's plan is to use his referendum victory to win support for his new constitution from representatives of the country's 88 republics and republics. He would call a constitutional assembly



CRITICAL JUNCTURE: YELTSIN MUST CURB INFLATION AND STRENGTHEN THE RUBLE

would include parliamentary representatives to approve the document, which would be confirmed in a national referendum.

The draft constitution, modeled loosely after Germany's, would give Russian citizens the right to own and freely dispose of private property for the first time. It would give Yeltsin, as head of state, the right to appoint the Prime Minister, the Cabinet, the central-bank chairman, and all top judges—with confirmation by the Federal Assembly. The assembly would include a State Duma of representatives elected according to population, and the Council of Federation, in which Russia's regions would be represented. For Yeltsin, much depends on whether the regions are satisfied with the limited rights of self-management under the constitution.

Yeltsin is also expected to buttress his privatization program by forbidding sales, such as Novosibirsk, from suspending auctions at which state properties are sold off. He's also likely to issue decrees soon on land privatization, a reform for which he has campaigned for years.

DR SHAKEUP? The most urgent economic issues, however, are combating inflation and strengthening the ruble. Because he can act on either matter, Yeltsin must decide how to handle a major governmental rift. On one side are reformers, such as Vice-Premier Boris Fyodorov, who insist that the money supply must be drastically tightened to prevent hyperinflation. But other officials, such as the central-bank Chairman Viktor Gerasimko, insist that halting the slide in industrial production and preventing mass unemployment are the key goals—even if it means inflation. Up until now, Yeltsin and Prime Minister Viktor Chernomyrdin have bounced back and forth between the two wings.

To decide the matter, Yeltsin's government could be in for a major shakeup, especially at a major meeting scheduled for Apr. 29. Radicals believe that Yeltsin must jettison reluctant reformers such as the new First Deputy Prime Minister Economics Minister Oleg Lobov, who doggedly supports the power of industrial ministries over state property. That may be hard for Yeltsin since Lobov is also a crony from a time when Yeltsin was communist boss of the gritty industrial city of Ekaterinburg. Worried Andrei Illarionov, a government economic adviser: "If the President does not change the government very quickly and in a very radical direction, he will lose everything." Yeltsin clearly is at a critical juncture. How well he performs could seal Russia's fate.

Rose Brady and Deborah Stead in Moscow, with Amy Borrus in Washington, Richard A. Melcher in London

THE RUNWAY IS CLEAR FOR DEUTSCHE AEROSPACE

In four years, CEO Schrempp has made it the pacesetter in Europe

For most aerospace executives, 1993 is shaping up as the year of the ulcer. Airlines are canceling jet orders at every turn. There's a dearth of new defense contracts worldwide. And budget-conscious governments are reinvesting in space programs.

But Jürgen E. Schrempp feels just fine. The hard-driving chief executive of Daimler Benz's \$10.8 billion Deutsche Aerospace (DASA) unit, Schrempp is piloting Germany's big power grab in world

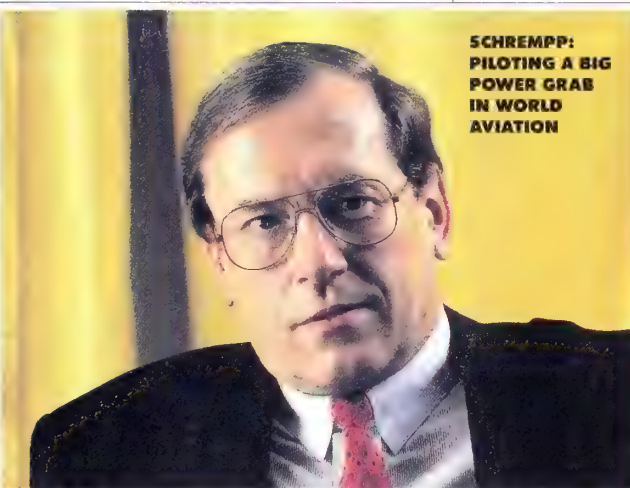
aviation. In recent years, he has helped DASA acquire stakes in everything from fighter planes to engines to commuter aircraft. And in the process, he is challenging the dominance of the Airbus Industrie consortium—of which DASA is a member.

This looks to be Schrempp's best year so far. It started with a bang in January, when DASA joined forces with Boeing Co. to begin studying a new 650-to-800-seat superjumbo jetliner. France's

Aerospatiale and British Aerospace jumped in with DASA. But it was amply clear that Schrempp had taken the lead. Next, DASA's Hamburg plant rolled out the first widebody Airbus jet ever assembled in Germany, an A321. Then, on Apr. 27, Schrempp signed a deal with the Dutch government to buy a 51% stake in regional jetmaker Fokker.

Even for an established player, such powerbrokering would win notice. But DASA didn't even exist until 1989. In a short four years, through a series of deals (chart), Schrempp has built a company that is in every conceivable branch of aviation. "He wants to see DASA and Germany play a large role in European and global aerospace," says Lawrence W. Clarkson, Boeing's vice-president for planning and international development. Schrempp's "a real game player... tough and very up front."

Schrempp also has his sights on an even bigger job. A gregarious manager who is fond of cigars and fine wines, he is seen as possibly the next chief



SCHREMPP: PILOTING A BIG POWER GRAB IN WORLD AVIATION

FAST TAKEOFF AT DEUTSCHE AEROSPACE

MAY, 1989 Created with Schrempp as CEO by joining planemaker Dornier and engine maker MTU with two electronics divisions of AEG

DECEMBER, 1989 Acquires 80% stake in Deutsche Airbus, the German partner in Airbus Industrie

JANUARY, 1991 Agrees with France's Aerospatiale and Italy's Alenia to develop regional airliners

MARCH, 1991 Takes 25% stake in venture with Pratt & Whitney to develop new engines

MAY, 1991 Forms Eurocopter with Aerospatiale to produce and develop civilian and military helicopters

JANUARY, 1993 Joins with Boeing and others to study feasibility of a \$20 billion superjumbo jet

MARCH, 1993 Rolls out first widebody jet, an Airbus A321, assembled in Germany

APRIL, 1993 Buys 51% stake in Holland's Fokker

DATA: COMPANY REPORTS, BUSINESS WEEK



LONE WOLF? AIRBUS INDUSTRIE EXECS SAY SCHREMPF'S OVERTURE TO BOEING UNDERCUT THE CONSORTIUM

of Daimler Benz. Edzard Reuter, now CEO of the industrial giant and Schrempp's mentor, is scheduled to retire by 1995. Insiders say Schrempp's record in getting DASA airborne positions him to succeed Reuter.

MAJOR FORCE. But Schrempp vows to keep building his record at DASA. When Reuter set up the company, Germany was a second-tier player in aerospace. Today, DASA is the major force in European aerospace industry, pulling ahead of the French. Already, DASA has a 33% slice of the European Fighter Aircraft (EFA) project and 40% of Eurocopter, a joint venture with France's Aerospatiale. It's offering Aerospatiale, as well as Italy's Alenia, 25% stakes in Fokker, with DASA keeping 50%.

To be sure, Schrempp has some rough times ahead. After a small (\$31 million) profit in 1991, DASA plunged into the red with a \$213 million loss last year. Says Schrempp: "The market today is totally depressed, and in my book, it will remain so for another two or three years."

So he is vowing measures to keep DASA strong as the industry shakes out. In a shakeup last year, he cut head-office staff to 300 from about 700 and eliminated two layers of management. He vows further cuts. But the biggest challenge is in changing the mindset at companies that DASA has absorbed. At companies such as defense contractor MBB, "for decades, there was a culture of cost-plus and basically one customer—in Bonn," says Schrempp. "It was an incentive to raise costs."

That was a shock to Schrempp, who

says: "All my life I've worked in globally competitive businesses." He's trying to keep it that way. When he was parachuted into DASA in 1989 from the No. 2 slot at Mercedes' truck operation, Schrempp swore he'd help wean Airbus from government subsidies and vowed to make DASA a bottom-line company. To U.S. trade negotiators, who complained that the consortium was juiced on hand-outs, it was braggadocio. But last fall, four years ahead of schedule, Daimler and DASA decided to forgo extra exchange-rate subsidies they had been receiving on Airbus from Bonn since 1989.

Schrempp's openness makes him popular in the U.S. But it creates suspicion in

Europe. When Schrempp approached Boeing directly about the superjumbo project, Airbus Chief Executive Jean Pierson started waves of protest that he and Airbus were being frozen out.

'GET IN CLOSE.' Schrempp, who was sunning himself in Cape Town, South Africa, when the flap broke, makes light of it. "It's like playing chess: It's good to get in close to the enemy or the competitor," he laughs. Schrempp insists DASA will stay with Airbus on conventional wide-bodies. But on projects beyond that range, such as a new supersonic transport, he adds: "Neither the Europeans nor the Americans can do it alone. So I have to look for new partners."

But with DASA's stake in Fokker, Schrempp has effectively blocked plans Airbus might have for making smaller planes. Airbus has said it wants to offer a shorter version of the planned 130-seat A319. But with Fokker blanketing the 70-to-100-seat range, Airbus' Pierson will likely back off.

Just to be sure, Schrempp is trying to persuade France's Aerospatiale, which, like DASA, owns 37.9% of Airbus, to join the Fokker venture. Schrempp says DASA must be treated as "an equal, not a junior partner," in European aerospace. If he keeps this up, DASA may well be more equal than others in short order.

By John Templeman in Ottobrunn, with Patrick Oster in Scheveningen and bureau reports

CANADA

'THE END OF THE CANADIAN DREAM?'

The deficit-and-debt crisis is straining social programs

For most Canadians, a well-padded safety net protects against personal hardships and social ills borne by their neighbors south of the border. With tuitions averaging around \$2,000 a year, they lose little sleep over paying for the kids' education. Until recently, they could collect unemployment benefits after quitting their jobs voluntarily.

Now, Canada is facing a reality check. The runaway costs of such benefits are forcing sharp cutbacks in an effort to

slow down the growth of huge debts piled up by Ottawa and the provinces. On Apr. 23, Floyd Laughren, finance minister in Ontario's labor-oriented provincial government, unveiled reductions of \$3.2 billion out of a budget that had been expected to total \$45 billion for the fiscal year starting Apr. 1. The cuts include an end to such largess as free prescription drugs for all senior citizens. The belt-tightening is a stunning turn-about for Laughren, known as "Pink

d" for his socialist leanings. But of the other nine provinces have unced similarly austere budgets in it weeks. And on Apr. 26, federal nce Minister Don Mazenkowski ta- a \$125 billion budget that proposes iminate 16,500 federal jobs and slash ding by \$25 billion over five years. ese are just the opening shots in t promises to be a protracted battle urb Canada's debt. "The social fabric has been so important to Canada is r attack," says Bob White, presi- of the Canadian Labor Congress. grams from unemployment insur- to day care and even medical care being pared. Maude Barlow, head of Council of Canadians, a public inter- group, warns that the downward spi- if it continues, "will mark the of the Canadian Dream" of a gener- society.

onically, Canada is being forced to e back its social net just as the Clin- Administration is proposing to ex- d U.S. programs such as health —and hike taxes to pay for them. the two countries' economies become e closely linked, differences between n are narrowing. Canadian oppo- ts of North American free trade com- n that it's forcing Canada to adopt al policies more like those of the S. But most economists say Canada to curb such costs, with or without e trade, to stay competitive globally.

RY COMEBACK. Politically, the growing ognition that Canada must curb nding seems likely to benefit the rul- Progressive Conservative Party, h its image of fiscal restraint. Recent is show the Tories coming back from ord lows. Most likely to be hurt, with federal election approaching next fall, he New Democratic Party: It is in- ting pain on its labor constituents in tario, where it runs the government.

The deficit-and-debt is driving the re- nchment makes S. woes look mild comparison. In the cal year that ended r. 31, Ottawa and e provinces racked deficits totaling \$46 ion—about 60% fed- l and 40% provin- l. That pushed net vernment debt over 0 billion—equal to staggering 91% of ada's gross domes-

product and second only to teetering ly among major industrial powers. In e U.S., government debt equals just % of GDP, according to a study by ada's Business Council on National ues (BCNI). Equally frightening, Cana- s net debt to foreigners has soared to

\$240 billion, or 43% of GDP—a higher ratio than any other industrial nation's.

As the problem mounts, business lead- ers worry that it could trigger a full- blown currency crisis. Canada is threat- ened by a possible "serious loss of confidence" in domestic and internation- al financial markets, the BCNI says. That could cause interest rates to spike "more than 500 basis points," or five full per- centage points, warns Lloyd Atkinson, chief economist of the Bank of Montreal.

White, who's leading a union fight

Such prospects are pushing the deficit high on the list of Canadians' anxieties, pollsters say. In response, politicians are rolling out plans to attack it. But most of them are wary of raising taxes. The restraint reflects the fact that Canada's tax burden is already 25% higher than that of the U.S.

That leaves social spending cuts as the main antideficit weapon. Across Can- ada, thousands of public-sector jobs are being eliminated, and plans for national child care have been shelved. Universi-



TORONTO'S POOR: THE DAILY BREAD FOOD BANK NOW FEEDS GROWING NUMBERS

against spending cuts, rejects such sce- narios as scare tactics. He notes that there's no sign of a flight from Canadian bonds: Foreigners have bought near-rec- ord amounts in recent months. Still, on Apr. 27, Canadian Bond Rating Service, a leading bond appraiser, downgraded Canadian long-term debt from its prized

AAA rating to AA+, arguing that the federal budget cuts aren't deep enough. Curren- cy markets reacted by dropping the Canadian dollar almost a full cent, to close around U.S. 78¢ on Apr. 27. The shaky outlook has already pushed up the real interest rate on Canadian long-term bonds to around 6%, almost twice as high as in the U.S. and at

"historic highs for this point in the [busi- ness] cycle," says George Vasic, econom- ics director for DRI Canada. The high rates and spending cuts are slowing Canada's recovery from its long reces- sion, with only 1% GDP growth in 1992 and an expected 3% this year.

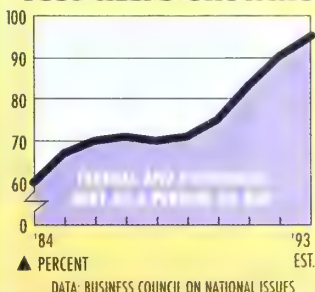
ties are capping enrollments and raising tuition. In many provinces, more restric- tive welfare programs are forcing poor Canadians to turn to volunteer help. Last month, Toronto's Daily Bread Food Bank gave emergency relief to 163,000 people, far above the 1990 level.

Even health care is coming under the knife, although no one is seriously pro- posing an end to universal health care. The provinces have already stopped pay- ing for services from wheelchairs to chil- dren's dental checkups. And Ontario's budget calls for cutting payments to physicians by \$220 million this year, an average of almost \$10,000 per physician.

To be sure, social spending is still gen- erous by U.S. standards. For example, Canadians pay no fees to use the medi- cal system. But the squeeze will become more painful, with most proposed cuts in the federal budget timed to take effect after the election. "We are still a long ways from exercising real fiscal respon- sibility," says Stephen Van Houten, president of the Canadian Manufactur- ers' Assn. "Our system of social bene- fits," he adds, "is no longer sustain- able." The day of reckoning, Canadians now realize, is rapidly approaching.

By William C. Symonds in Toronto

CANADA'S DEBT BURDEN JUST KEEPS GROWING





I am

"As a management consultant with a degree in chemical engineering, I took a close look at various chemical companies. So when it was my turn to join the ranks of those who manage - I had a pretty clear picture of what to expect. What I wanted was

to work with people who were the best in their field. What I didn't want was to waste years waiting to run my own shop. That's why I teamed up with Akzo. The market we're in is constantly on the move. To move with it, we have to travel light. And

Akzo is one of the world's leading companies in selected areas of chemicals, fibers, coatings, salt and health care products. Some 63,000 people, active in 50 countries around the world, make up the Akzo workforce. For more information, write or call Akzo America Inc., Corp. Comm. Dept./R4, 300 South Riverside Plaza, Chicago, IL 60606. Phone (312) 906-7500.



Peter Gommers, General Manager Industrial Surfactants Europe:

free

in the corporate guidelines, we've got all the
om to do so. Akzo represents the best of two
ls - the flexibility of a local entrepreneur,
he power of a global player. You need both to
e the right chemistry."

CREATING THE RIGHT CHEMISTRY



OPTOELECTRONICS MAY REVOLUTIONIZE COMPUTERS —AND A LOT MORE

THE LIGHT

 Embedded in the new dam spanning Vermont's Winooski River are four miles of glass fibers. Laser light racing through them will warn of strains and stresses long before failures occur. In late April, in fact, the fiber-optic sensors alerted dam operators to a turbine gear that was about to break.

...
In a University of Pennsylvania lab, scientists Britton Chance

and Arjun Yodh have deciphered the chaotic light patterns created when harmless, low-power laser beams shine through the human body. Their goal: light-based medical imaging that will detect brain tumors and other diseases far more cheaply than today's magnetic-resonance systems.

...
Laser beams flash through the AT&T Bell Laboratories room where Alan Huang is designing

a computer that moves data light instead of electrons. The latest optical processor can do a washing machine. "We come from the crazy to the possible to the impractical," says Huang. Someday, he believes his technology will spawn astonishingly powerful computers.

...
In only a few decades, the enormous power of silicon chips transported much of the world from the Industrial Revolution

PROMISING RESEARCH—AND WHO'S DOING IT

TRANSPORTATION

In cars, optical sensors will monitor the engine, direction, and speed, then send data to brakes, suspension, or other systems. In planes, fiber-optic probes will warn of structural stresses.

Hewlett-Packard, Packard Electric, GM, Honeywell, Boeing



COMMUNICATIONS

Advances in lasers and fiber optics will soon lead to very-high-speed networks that can transmit the contents of the *Encyclopaedia Britannica* in less than a second.

IBM, AT&T, regional Bells, Raynet, Fujitsu, NEC, Alcatel, Siemens



MEDICINE

Lasers and other optoelectronic devices will zap plaque in arteries, aid in surgery, activate photosensitive drugs, spot brain tumors, and measure levels of substances in the blood or individual cells.

Eclipse Surgical Technologies, Endo Optiks, Lasermedics, Toshiba, SpectraScience

FANTASTIC

the Information Age. The great leap, many scientists believe, will come from a technology called optoelectronics—the marriage of light and electricity. If it's fully harnessed, they say, light will supercharge the world of communications and computers and bring new ways of probing everything from the universe to the body. The possibilities "are truly amazing," says John Day, president of market researcher Strategies

Unlimited. "We are moving from the world of the electron to the world of the photon"—the most basic unit of light.

This light fantastic is already shaping everyday life. Each hour, millions of voices and megareams of data zip through fiber-optic lines on streams of photons. Every time you use a laser printer, buy from a store that has bar-code scanners, gaze at a laptop computer, or hear Madonna or Mozart on compact

disks, the words, purchases, data, and tunes are communicated by light beams. Sales of optoelectronic devices from AT&T, Hewlett-Packard, Sony, NEC, Fujitsu, and countless small innovators have been rising 15% a year and will total \$39 billion in 1993, estimates the Optoelectronics Industry Development Assn. (OIDA). "Optoelectronics is becoming the backbone of the Information Age," says Arpad A. Bergh, a

MANUFACTURING/ CONSTRUCTION

Optical fibers looped through structures will monitor and help control production. Embedded in structures, optoelectronic sensors will detect stresses before disaster occurs.

General Electric, GEC-Marconi, Vermont



COMPUTING

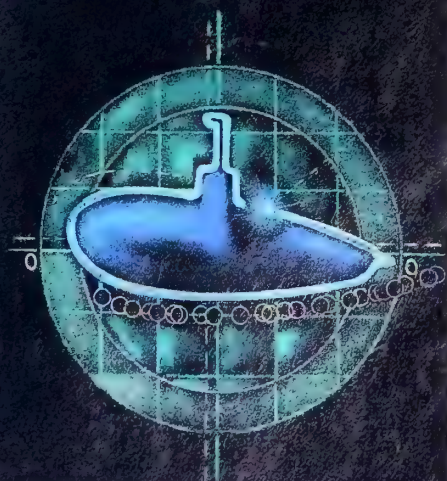
Optoelectronics already is key to laser printers, flat-panel displays, and CD-ROMs. Coming are holographic computer memories, faster computers, and processors that crunch entire images instead of bits of data.

AT&T, IBM, Hewlett-Packard, Fujitsu, Honeywell, Photonics Research, NEC, Motorola, Tamarack Storage Devices

DEFENSE

Optoelectronics will lead to new submarine detectors, missile sensors, and components for better aircraft or satellite radars.

Hughes, Lockheed, Boeing, Grumman, Martin Marietta, McDonnell Douglas, United Technologies



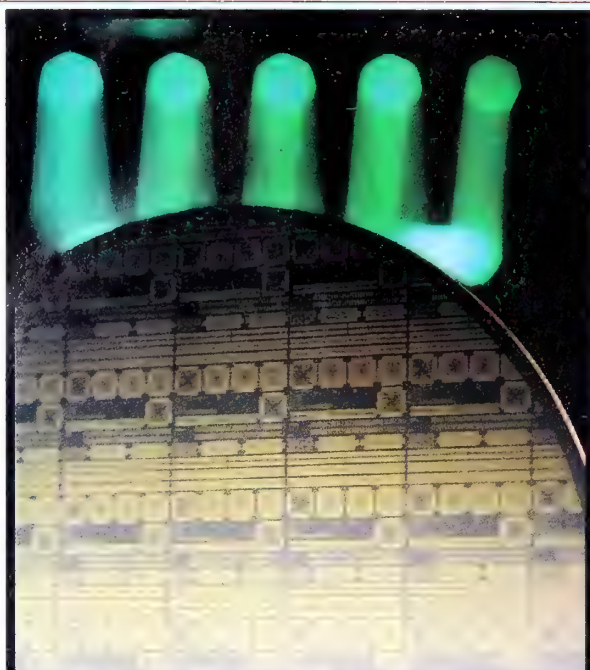
top official at Bellcore, the research and development arm of the Baby Bells. "Without it, we could not collect, store, or transmit information."

And yet, the Optoelectronic Age is just dawning. As there was a formative leap in the 1960s from separate transistors wired together to thousands of transistors etched on silicon chips, so optoelectronics is poised to move from individual lasers and devices "toward integrated-circuit technology," says University of Illinois photonics pioneer Nick Holonyak Jr. At Bell Labs, Bellcore, and other facilities, scientists are building prototype chips that contain thousands of microscopic lasers. Instead of relying on electrons coursing through tiny wires, these chips will send and receive messages by flashing the lasers on and off millions of times a second.

Foreseeing such advances, the Clinton Administration has made a nationwide fiber-optic "information superhighway" a centerpiece of its technology policy. The Pentagon, meanwhile, is pouring millions into optoelectronics for military gear and civilian spin-offs such as flat-panel displays (page 48).

Both efforts are being spurred by intense rivalry with Japan. The fundamental optoelectronic inventions were U.S.-made. But today, Japan dominates markets for CD players, CD-ROMS, and flat-panel displays. It is investing billions in cutting-edge R&D and plans to link every home and business with fiber optics by 2015. "Japan is betting the country on optoelectronics," says Peter F. Moulton, vice-president of the research unit at Schwartz Optics, a Boston-area laser maker.

INTERCEPT. Such a commitment is not surprising, given the potential gains. In telecommunications alone, replacing poky electronics and copper wire with photons can boost capacity of transmission lines 10,000 times. The same approach could make today's computers the equivalent of Model Ts. At IBM, AT&T, Martin Marietta, engineers are building hybrid systems



THE HEART OF THE NEW MACHINES THIS WAFER'S MICROCHIPS HOLD 64 LASERS—EACH NO BIGGER THAN A GRAIN OF SALT

in which beams of light replace wires that connect chips and computers. Big advances also lie ahead for computer-memory technology, says Scotty R. Neal, president of AT&T CommVault Systems, which makes optical storage devices. "Revolution is an overused word, but it's happening. You'll be able to put more information than all the world's books contain in a box and have it accessible in seconds."

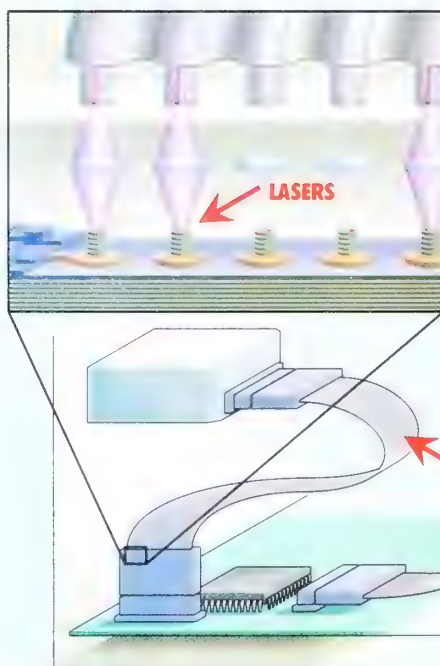
The technology's impact will go well beyond that. The coming decade will bring optosensors that monitor factory processes, spot stresses on buildings and other structures, or detect submarines (page 50). In cars, optical sensors may control engine performance and help avoid crashes. Add it to the list of technologies that Tokyo's analysts foresee for optoelectronics sales in Japan alone of more than \$300 billion by 2000. Because of this technology, "the 21st century will be a very different place," muses Phil Anthon, head of optoelectronics research at Bell Labs.

TOO MUCH HYPE? How different is still a matter of conjecture. Like with any nascent technology, "optimistic predictions will almost certainly be wrong," says Bell Labs physicist David A. B. Miller. When the semiconductor laser—a building block of optoelectronics—was invented in 1962, few expected that its first mass market use would be for listening to music through CD players so complex "we shouldn't let ordinary people buy them," jokes Robert W. Lucky, Bellcore's vice-president for applied research. Still, Lucky and others wonder if visions of optoelectronic miracles are mostly hype. "Photonics is a beautiful, it's got to be good for something else," he says. "But I don't know what."

To the technology's boosters, Lucky's skepticism is reminiscent of the pessimists who called electronic integrated circuits impossible. But it is easy to see where he is coming from. To examine the details of the technology is to enter a world of exotic materials and esoteric devices largely governed by the topsy-turvy rules of quantum mechanics, where light simultaneously acts as particles, or photons, and as waves.

At its simplest, optoelectronics involve transforming electricity to light and back again, largely through the marvel of semiconductor materials. Through intricate engineering of their structure, semiconductors such as gallium arsenide can be made to give off light when a current is

OPTOELECTRONIC COMPUTERS



A government-industry consortium is developing optical components for a lightning-fast hybrid computer. Optical fibers inside the machine will link the processors with memory devices and the communications ports. An array of lasers shines light into the fibers to carry data.

AT&T, IBM, Honeywell, Martin Marietta

OPTICAL FIBER RIBBON

DATA: OPTOELECTRONIC TECHNOLOGY CONSORTIUM

sed through them. The simplest of these devices are light-emitting diodes (LEDs), invented in 1961. Today, 20 billion are made a year, for everything from blinking lights on cellular phones to high-mounted center brake lights on over cars.

The next advance came in 1962. The first lasers required a ruby or cumulative tube of gas to generate light. To make smaller devices, researchers at GE, and other labs put mirrors on the ends of tiny, light-producing regions of the semiconductor. When light bounces back and forth between the mirrors, it is amplified until it's bright enough to pass through one mirror—and make a narrow beam of a single wavelength, or color, of light. This device, the size of a grain of salt, is a semiconductor laser. Today, these are at the core of CD players and many other products.

Semiconductor lasers are also the engines for fiber-optic transmission. Through what Bell Labs' Vinton G. Gray calls an "accident of nature," some of them produce light precisely at the infrared wavelengths at which optical fibers are most transparent—the quality that allows them to carry data great distances. Until recently, however, there was a bottleneck: Light pulses fade as they travel the fiber. So every few miles, they were converted back to electricity, amplified, reconverted to light, and re-sent.

This limitation has disappeared with the invention of the optical isolator. Emmanuel Desurvire's colleagues were skeptical when, as a senior Bell Labs researcher in 1986, he attempted to make such a gadget. Desurvire persevered, however. Building on advances in England and Japan, he laced glass fibers with a rare earth element, erbium, and devised a way to pump energy continuously into the fiber from an external laser. This replicates the brightness of light pulses and ends the need for electronic repeaters. Dramatically faster fiber-optic networks are thus possible—as is light-speed computer processing. Desurvire's vision "is about to revolutionize the industry," says Tingye Li, who directs light-waves system research at Bell Labs.

BY LIGHT. Among the most avid powers of all this are defense contractors. In the past decade, Hughes, Boeing, Honeywell, and Lockheed have been or boosted optoelectronic R&D. The Lockheed-Boeing F-22 fighter and Boeing-Sikorsky Comanche helicopter will use fiber optics to ferry huge amounts of data between their various systems. In addition, the Pentagon's Advanced Research Projects Agency (ARPA) and some companies want to replace electronic

controls with a "fly-by-light" system. Both approaches would save weight and keep information free of electromagnetic interference from other equipment, lightning, or nuclear blasts.

Defense companies also are working on sensors and optoelectronic components for radars so sensitive that they'll read license plates from satellites. And they're creating wings that are "smart" enough to telegraph dangerous stresses—for instance, through sensors that analyze how laser light is absorbed or scattered. A Lockheed Corp. system bounces light off of dust particles in the air to spot wind shears, the violent downdrafts that can cause plane crashes.

Essentially the same approach is being applied to such medical jobs as monitoring blood sugar. In fact, when Hewlett-Packard Co.'s Mark Chandler began

for example, plans to reach all of its customers by 2010—their capacity will soar. At IBM's Thomas J. Watson Research Center in Yorktown Heights, N.Y., scientists are creating an astonishingly powerful fiber network for rollout by the late 1990s. Their key innovation is boosting the number of wavelengths of light that travel the fiber. Now, optical fibers carry only pulses of light at one wavelength, or color, like a one-lane highway. Using an array of lasers, each producing light with a slightly different wavelength, creates thousands of lanes within the same fiber.

DIALING FOR DATA. Each channel is big enough to send the contents of the *Encyclopaedia Britannica* in a second. So the system's overall capacity will be prodigious—large enough to profoundly alter the business of communications. Today,



A FORCE TO BE RECKONED WITH DAVID MILLER'S TEAM AT BELL LABS HAS DEVELOPED A NEW TYPE OF LASER, CALLED SMART PIXELS—CHIPS WITH ARRAYS OF BOTH LASERS AND TRANSDUCERS.

assessing the biomedical uses of the technology for the OIDA last year, he "was surprised by the size of the market opportunities," he says. The group predicts that the medical market will exceed \$10 billion a year by 2013. Lasers are already used to blast plaque from clogged arteries and perform surgery. Now, they're showing promise for imaging. "We could take a big bite out of health-care costs," says Penn's Britton Chance, who thinks optoelectronic detection of brain tumors could cost 99% less than magnetic-resonance imaging.

Perhaps the greatest impact of optoelectronics, however, will be in telecommunications and computing. Even as fiber-optic networks are extended to homes—New Jersey Bell Telephone Co.,

customers typically pay a phone company by the bit to transform information into light pulses and route it through the fiber-optic system. But with what IBM's Paul Green, manager of advanced optical networks, calls a "dumb, dark" network, a company could simply lease unused—or dark—fiber for a flat fee. It would use its own lasers to send data, as though on a private highway.

Optoelectronics will also help solve a resulting problem: where to store such vast amounts of information. Optical CD-ROMs, in which lasers etch information as tiny pits on the disk's surface, offer 100 times the capacity of today's floppy disks. That explains why sales of computer CD-ROM drives have doubled since 1990. And the potential of optical storage

CAN THE U.S. PUT ITS SCREENS IN THE PICTURE?

Despite Japan's worst recession in decades, Sharp Corp.'s Tenri plant is humming: Its production of 100,000 flat-panel screens a month is expected to double within a year. Hosiden Corp., which makes laptop screens for Apple Computer Inc. and cockpit displays for Boeing Co., is ramping up, too. So are NEC Corp. and Fujitsu Ltd. No wonder. Advanced flat-panel displays—one of today's brightest optoelectronics products—will become even hotter once they're put into HDTVs, cars, and medical gear. That's great news for the Japanese, who have over 95% of a global market that is projected to grow 14% annually, to \$9.4 billion by 2000.

The news might be good for America, too. From tiny Kopin Corp. to giant Xerox Corp., U.S. companies are developing new screen technologies. Motorola Inc. and partner In Focus Systems Inc. are building the first major U.S.-owned flat-panel display factory. And the Pentagon's Advanced Research Projects Agency (ARPA) has formed a display consortium that includes American Telephone & Telegraph, Xerox, and eight others. "High-definition displays are the windows into the Information Age," says Lance Glasser, director of ARPA's Electronic Systems Technology Office. "We're determined to get the U.S. back into high-definition displays."

NIGHTMARE. America's hopes depend on out-innovating the Japanese. They've invested \$3 billion in the leading technology—active-matrix liquid-crystal displays. But making these is fiendishly difficult. Liquid crystal acts as a shutter that blocks or allows light from the back panel to pass through and darken or lighten each dot, or pixel, on the screen. A transistor at each pixel activates the crystal shutter. High-resolution color screens can have a million or more pixels—thus the production nightmare. Only recently have yields of defect-free screens climbed above 60%. Moreover, Japan's display makers haven't fashioned screens larg-

er than 20 inches diagonally or dropped the price much below \$1,500.

So the door is ajar for U.S. producers. In Focus has a way to make high-resolution LCDs that don't need a transistor at each pixel—thus slashing manufacturing costs and boosting yields past 90%. The Wilsonville (Ore.) factory should be cranking out six-inch screens for handheld devices by early 1994, says In Focus Chairman Steven R. Hix, "and Motorola is pushing like mad to get up to 12 inches."

Other U.S. innovators are aiming for screens that take over some computer functions—a key to miniaturization. David Sarnoff Research Center in Princeton, N.J., has made four-by-eight-inch prototypes of such a "smart" LCD. And in Taunton, Mass., Kopin

ident of screenmaker Photonics Imaging in Northwood, Ohio. "Active-matrix doesn't have a prayer of catching up," he adds.

Chipmaker Micron Technology Inc. in Boise, Idaho, is trying another approach—field-emitter displays that use thousands of arrays of electron beams to light up the phosphor coatings in screen. One advantage of this technology is that viewers won't discern the failure of a few microscopic field emitters. That's also true for screens using clusters of either light-emitting diodes (LEDs) or miniature lasers to light each pixel. Once researchers can make screens with a palette of colors bright enough for use in daylight, "these displays will take over the flat-panel market," predicts physicist Jan F. Schetzle.

WINDOWS INTO THE INFORMATION AGE

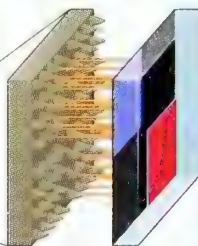
Today's color flat-panel screens require nearly a million transistors to drive liquid-crystal displays. They're difficult and costly to make, so there's a search on for better technologies.



FIELD-EMITTER DISPLAYS

These aim arrays of microscopic cathodes, or electron guns, at each pixel, or point of light on a screen. The electrons cause a phosphor coating on the screen to glow.

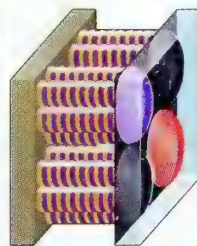
Micron Technology, Fujitsu, NEC



LASER SCREENS

Miniature laser beams would form each pixel, creating a very bright, efficient screen. Companies now build similar displays using light-emitting diodes (LEDs).

Stanley, Sharp



PLASMA DISPLAYS

An electric current causes a miniature tube of gas at each pixel to glow. The displays consume too much battery power for laptop computers but are suitable for big screens.

Photonics Imaging, NHK Matsushita, Fujitsu

mounts high-speed computer-chip circuitry on a display's glass. Kopin's displays will be used in projection-TV systems and tiny screens in military goggles for simulations, guiding weapons, or viewing data.

Very big screens, by contrast, may require abandoning LCDs. Screens in which each pixel produces its own light "are much crisper and more pleasing to the eye than backlit [liquid-crystal] displays," says James A. Ionson, research vice-president for Polaroid Corp. In plasma displays, for instance, a current induces a gas at each pixel to shine. These are easier and cheaper to make, says Peter S. Friedman, pres-

ident of North Carolina State University.

The next question is whether U.S. lab breakthroughs can become commercial successes. The Japanese are also working on advanced plasma display and laser screens. Given Japan's huge investment, manufacturing skills, and enormous lead, says consultant Lawrence E. Tannas Jr., president of Tannas Electronics in Orange, Calif., it will take the U.S. at least a decade to get back in the race. Only then might anyone know who will offer the clearest windows into the Information Age.

By John Carey in Washington, with Neil Gross in Tokyo and Gary McWilliams in Boston

barely been tapped. Scientists at and elsewhere are devising ways to make the pits smaller and closer together—including using lasers that emit short-wavelength blue light—to boost storage capacity three- or fourfold. More exotic solutions lie ahead. Researchers at Microelectronics & Computer Technology Corp. in Austin, Tex., have formed a company called Tamarack Storage Devices Inc. to commercialize a holographic memory system. The gadget shines two laser beams onto material that changes chemically when struck by light. Much like the wakes of cross-hatching boats, the light waves interfere with each other. The result is a distinctive wave pattern, or hologram, that encodes information and can be retrieved with another laser. This technology boosts storage capacity and speeds access times to the data. "It could replace floppy disks, hard drives, CD-ROMs, and even some hard disks," says Tamarack President John Mackenroth, who hopes the first products will reach the market next year.

WIRES. Optoelectronics also promises the computer revolution never needed to move this mountain of data. In the 1990s, some researchers are laying the groundwork for purely optical computers—entirely light-based machines with no wires inside. In these, data would be moved exclusively by light beams that cross through each other without interference. The dream of an optical computer has many lives: Bell Labs' Huang has built an all-optical processor. And in January, University of Colorado researchers showed off a rudimentary optical computer that can do simple mathematics. It's hard to program the machine for more complex tasks, however. So a practical version is still decades away.

In the meantime, most researchers are shifted to an easier goal—a hybrid computer that combines electronics and optics. "What makes sense is optoelectronic computing," says Sadik C. Esener, an engineering professor at the University of California at San Diego. IBM, Martin Marietta, Honeywell, and AT&T have joined the Optoelectronic Technology Consortium, funded with \$8 million from DARPA, to develop optical links among a processor, two memory units, and the machine's communications ports. This so-called optical backplane will remove bottlenecks in current machines

to let them run faster. "Many people think this will be the next thing in system design, with broad applications for supercomputing and high-speed telecommunications," says David Lewis, head of optoelectronics at Martin Marietta's electronics laboratory in Syracuse, N.Y.

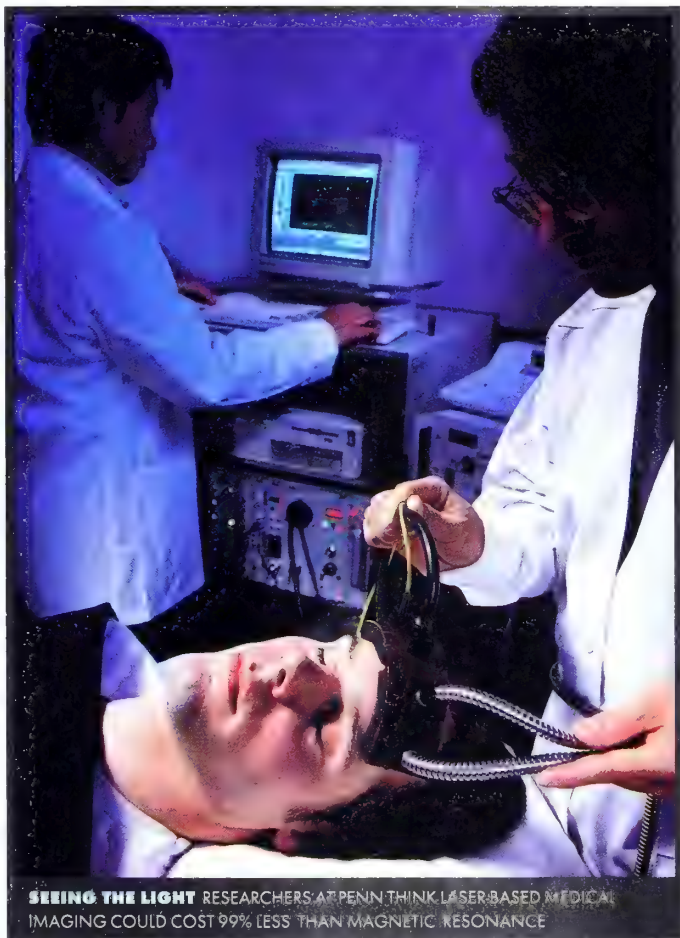
Optoelectronics also offers a radical shift in the way a computer processes information. "The real advantage is that an image [not a bit] is the unit of information," says Purdue University physicist David Nolte. "One image can contain 1 billion bits." To match fingerprints, for example, computers now search for similarities between two pictures by com-

At startup Photonics Research Inc. in Boulder, Colo., co-founder Jack L. Jewell, in collaboration with researchers at Bellcore, is using techniques adapted from chipmaking to fashion a new breed of microscopic lasers. These emit light upward from the wafer, making it possible to create chips that aim hundreds or thousands of lasers in the same direction, creating a powerful beam. Moreover, the job of aligning this array of lasers with a corresponding array of optical fibers should be much simpler, dramatically reducing manufacturing costs. "There are huge numbers of markets" for the improved devices, says Jewell. These include laser printers, optical memory for computers, and advanced telecommunications networks.

EAGLE 'EYES.' Another promising computer technology involves so-called smart pixels—chips with arrays of lasers and transistors—that send and receive information using hundreds or thousands of light beams. These hybrid devices are already capable of such rudimentary processing as routing signals from one path to another in a network. At Bell Labs, Miller's team has built experimental smart pixels that process a hundred million bits per second. Very fast conventional chips can do as well. But the advantage of smart pixels is that they can contain hundreds or thousands of channels operating at that speed. They should thus make it possible to build faster hybrid optoelectronic computers and zippier high-speed switches in communications networks. And smart pixels could be used in computer-vision systems capable of matching fingerprints or serving as the "eyes" for self-guided vehicles.

Smart pixels are a big step toward practical integrated optoelectronic circuits, but they're still tricky to build. The Bell Labs devices, for example, are fashioned from complex wafers that are processed to make both transistors and lasers. Another approach uses less exotic wafers and a technique called selective-area epitaxy. This allows the lasers and transistors to be made separately on the same chip, says Colorado State University electrical engineer Henryk Temkin. He expects the technique to take several years to perfect but predicts it will greatly lower the cost of making many optoelectronic devices.

Some researchers are even trying to coax light from silicon itself. If that becomes possible, manufacturers could



SEEING THE LIGHT RESEARCHERS AT PENN THINK LASER-BASED MEDICAL IMAGING COULD COST 99% LESS THAN MAGNETIC RESONANCE

paring the thousands of individual pixels, or dots, that make up each image. An optical processor, by contrast, can overlay two images and immediately spot similarities. University of Colorado computer scientist Kristina M. Johnson is using this to design an optical chip that can identify cancer cells in Pap smears.

The main hurdles to such bold ideas are complexity and cost. Because current lasers emit light from the side of a chip, each must be cut from the parent gallium arsenide wafer, then aligned by hand with a glass fiber about the width of a human hair—a costly job. A better approach would be to move from single lasers to integrated systems.

That leap will require some wizardry.

build optoelectronic devices without using materials such as gallium arsenide, which is expensive and hard to work with. So far, scientists have gotten a few rays of light by riddling silicon with holes or lacing it with sulfur or germanium, then applying a current. But they're still in the dark about what's going on inside the chips. "We're looking for a breakthrough," says Dennis G. Hall, professor of optics at the University of Rochester, who is working with sulfur in

silicon. One lesson from the past, he adds, is that in optoelectronics, it's reasonable to expect new discoveries.

Taken alone, each of these advances represents only a small leap. It may not even be obvious, for example, when optical fibers replace wires in computers—except that the machines will work faster. But the remarkable attribute of optoelectronics is its enormous breadth. It will touch everything from medicine to the waging of war. As the technology

creeps into use, the quality of images on videophones will improve dramatically, and the amount of information that databases can hold will rise exponentially. Airplanes made of smarter materials will be safer, medical devices will be better and cheaper, until one day, optoelectronics will have fomented a revolution as far-reaching as that wrought by the silicon chip.

By John Carey in Washington, and Neil Gross in Tokyo

DEVELOPING A HIGH-TECH SIXTH SENSE

One offspring of the marriage of electricity and light is better technology for probing the world.

Researchers are developing optoelectronic sensors that can record stresses in airplane wings or buildings, peer into living cells, or measure levels of air pollution. "No other technology gives the same capabilities," says physicist Alan D. Kersey, a sensor expert at the Naval Research Laboratory in Washington, D.C.

Sensor technology mostly exploits the fact that light travels in waves. Take the fiber-optic gyroscope now used in some planes. Laser light is split into two beams that travel in opposite directions through a coil of fiber. When the plane turns—and the gyroscope with it—light traveling one way around the coil will have to go slightly farther to reach the end of the fiber. The other path will be a bit shorter. So the two streams of light waves will arrive back at the starting point slightly out of sync, allowing a processor to calculate the change in direction. Built by Honeywell Inc. and others, these gyroscopes are simpler, lighter, and less costly than previous ones.

Light waves can also help peer into solid materials. University of Vermont engineers Peter L. Fuhr and Dryver R. Huston have embedded miles of optical fibers in concrete in a university building and other structures. Light waves shining down the fiber bounce off its internal walls like errant bobsleds, interfering with each other and

forming a distinctive light pattern at the end of the fiber. The pattern changes as the fiber is bent or stretched by cracking deep within the concrete—and the change is analyzed by a computer. "This technology shows engineers what is going on inside a structure," says Fuhr. Aerospace companies envision using similar sensors to build "smart" airplane skin, says Kersey, that can "provide real-time analysis of what's going on in the wings."

vices will monitor everything from calcium to sugar levels inside cells—boon for biomedical research.

Optoelectronic sensors don't always involve optical fibers. Pollution detectors use laser beams that are reflected off tiny particles in the air. And Hewlett-Packard Co. has developed LE sensors capable of detecting even the slightest turn of a car's steering wheel. The information could be used with a microprocessor to adjust an active suspension system so

banks the vehicle into a turn. Mark Chandler, optoelectronics marketing manager at HP, predicts that such sensors will be a \$10 million-a-year market by 2005.

So far, much of the cutting-edge work in sensors is being done for defense applications. The Navy is building cheap but sensitive fiber-optic sensors to pick up the faintest ripples created by lurking submarines. And Hughes Aircraft Co. and others are developing phased-array

ray aircraft and satellite radars. Instead of large radar domes, these planes and satellites would use scores of tiny radar-beam emitters mounted on the plane's or satellite's skin. "A fiber-optic connection to each group of emitters makes it possible to steer the resulting radar beam," says Richard Lind, manager of the optical physics lab at Hughes. Such a system, experts say, could see a license plate from orbit. Not much, it seems, will be hidden from optoelectronic sensors.

By John Carey in Washington

SMART PLANES

Aerospace companies envision planes that use networks of sensors and fiber optics to monitor stress and temperature on wings and other surfaces.

OPTICAL FIBER SENSORS are embedded between layers of composite material. Changes in the pattern of light shining through the fibers may indicate incipient cracks and other damage.



FIBER-OPTIC DATA "BUS" uses lasers and light detectors to carry information to computers.

DATA: NAVAL RESEARCH LABORATORY, BUSINESS WEEK

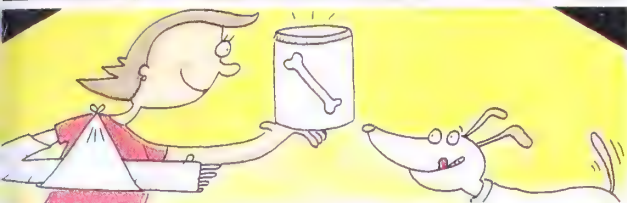
Other scientists are making sensors by adding impurities to optical fibers that cause the glass to reflect, scatter, or emit light differently when a variable, such as temperature or pressure, changes. A single such fiber can be strung through a factory to monitor the temperature of dozens of machines and furnaces.

SWEET SPOT. University of Michigan chemist Raoul Kopelman has built a microscopic fiber-optic sensor that enables biologists to measure the pH level of a single living cell. Similar de-

Developments to Watch

ED BY WILLIAM D. MARBACH

MAJOR STRIDE FORWARD SYNTHETIC-BONE RESEARCH



Bone injuries and diseases such as arthritis have long defied quick remedies. But investigators at the University of Pennsylvania have come up with a way to create synthetic, bone-like material rapidly. The technology, which could lead to more effective treatments for everything from fractures to bone cancers, is "a major innovation," says Penn scientist Paul Ducheyne, who headed the team.

Researchers have been able to grow large amounts of hard, bone-like material in a week using a mixture of bone-marrow cells, body fluids, and a special ceramic. Other scientists, says Ducheyne, have taken longer to form bone-like material in processes that are harder to control. He says the lab-grown material could eventually replace some of the inert materials used in orthopedic treatments. Next, researchers will determine whether these substances will help regenerate bone in the body. If the technology proves out, he says it could be ready for human use in as little as four years.

MEMORY-CHIP MAKERS CAN FORGET THE BAD TIMES

First, the global recession pummeled Japan's electronics giants. Then, as the dollar tumbled, their earnings in America declined in value when translated back into yen. Hitachi, Toshiba, and Mitsubishi Electric, for example, will all take heavy currency hits in the fiscal half ending next September. But there's bright news coming. The \$19.3 billion memory-chip market is pulling out of its four-year slump. The reason is continuing strong sales of personal computers and workstations in the U.S. Dataquest Inc. director Lane Mason says fits of PC and workstation chips—DRAMs, SRAMs, EPROMs, and flash memories—should be up tenfold this year over 1992, thanks to a more even balance of supply and demand.

"We're at the beginning of a cyclical upturn," says Mason. The Japanese electronics companies—which dominate the worldwide market—didn't pump additional billions into new plants last year. So now they're able to keep prices high. Their chief competitors, the Koreans, can't build new memory-chip plants fast enough to make much difference for now.

SUPERCONDUCTIVE CERAMICS IN A SHOESTRING

Talk about low budgets. Andrew T. Hunt, a PhD student at Georgia Institute of Technology, wanted to try a different approach for creating thin films of ceramic materials. When a professor wouldn't O.K. the experiment, Hunt set up a plywood table in his backyard, and, using \$250 worth of equipment, deposited a one-micron-thick layer of superconducting material on a crystal of magnesium oxide. He used an artist's brush and a blend of powdered yttrium, barium, and copper compounds dissolved in an everyday solvent, xylene. He put

extra oxygen into the compressed air, then ignited the spray. Some of the resulting gunk landed on the crystal. The crude film showed hints of superconductivity at around 85 degrees Kelvin, above the boiling temperature of liquid nitrogen.

The technique, says Brent Carter, a Georgia Tech assistant professor of materials science, is a promising alternative to the current technology, chemical-vapor deposition. Hunt's combustion chemical-vapor deposition doesn't require costly vacuum chambers or furnaces. It has already been used to create other thin films, including yttrium-stabilized zirconia for wear resistance and insulation. Georgia Tech Research Corp. and Hunt have applied for a patent on the process.

RESTORED HEARING —FROM WRINKLE CREAM?

Too many rock concerts or other loud noises, disease, or simple aging have caused hearing loss for more than 15 million Americans. In most cases, the problem can be traced to damage to so-called hair cells in the inner ear. Scientists have considered the loss to be permanent, because the ear seemed to lack the ability to repair the damage.

Now, researchers at the Albert Einstein College of Medicine and the University of Liège in Belgium have regenerated damaged hair cells. In experiments reported in the Apr. 30 issue of the journal *Science*, the scientists extracted parts of rats' inner ears, grew the tissue in the lab, and killed the hair cells with drugs. When they dosed these cultures with a vitamin A derivative known as retinoic acid—the active ingredient in the wrinkle cream Retin-A—immature cells in the ear tissue developed into normal auditory hair cells. The researchers still don't know how retinoic acid helps regenerate the cells and caution that curing hearing loss in humans is years away. But "we're on a very promising track," says Einstein's Thomas R. Van De Water, leader of the team.

ZAPPING THOSE KETCHUP STAINS WITH OZONE

Ozone has a complex personality. It's unhealthy at ground level, but in the upper atmosphere it blocks harmful solar rays. Now, it can also help do the laundry. Man-made ozone—generated by zapping air with electricity to make a gas composed of three oxygen atoms—is a powerful oxidizer that kills bacteria and decomposes organic



stains. When ozone is dissolved into wash water, washing machines can get by with less detergent, cooler water, less agitation, and less damage to fabrics. Laundry Logic Inc. in Conshohocken, Pa., and Pure Water Corp. in Kansas City, Kan., have sold a handful of systems that pump ozone into modified commercial washing machines.

Tri-O-Clean Laundry Systems Inc. in Fort Pierce, Fla., sells systems that use cold water and no detergent at all. They filter and recycle most of the water. Tougher environmental regulations should spur demand, says Charles I. Pearsall, managing director for marketing: "Water is going to be a very expensive commodity in the next 10 years, and so is sewage."

WHY INSURANCE RATES HAVE LOST THEIR OLD BOUNCE

With all the disasters, you'd expect them to be way up by now. But this pricing cycle breaks the rule

Hurricane Andrew. The Los Angeles riots. The Chicago flood. A record number of tornadoes. Hurricane Iniki. The December nor'easter. In 1992, insurers got slammed by 'em all. While such catastrophes wreaked unprecedented financial havoc on property/casualty insurers, some executives and analysts see good news for the industry emerging out of the wreckage. After five years of vicious price competition, they feel the prospect of big losses—as much as \$16 billion from Andrew—will permit, even force, the industry to raise its prices. That expectation has buoyed stocks of many insurers, pushing some, such as Chubb Corp. and American Insurance Group Inc., near 52-week highs.

There's only one problem: It hasn't happened yet. To be sure, prices have taken off in some specialty lines of insurance, such as reinsurance, and inched up in a few standard lines and in certain regions—homeowner's insurance in Florida being the obvious example. But most of the increases aren't near the magnitude seen in previous turns of the insurance pricing cycle. And rates for casualty insurance, which covers liability or loss from accidents, haven't even budged. "A lot of the forces that were supposed to move this market simply haven't materialized," says Richard Moscicki, a consultant with Tillinghast, a Towers Perrin actuarial consulting company.

RATE RESCUE. What's keeping prices down? Although the industry faces big losses, most insurers have made a killing in their investment portfolios as a result of falling interest rates, which permitted them to reap huge capital gains on



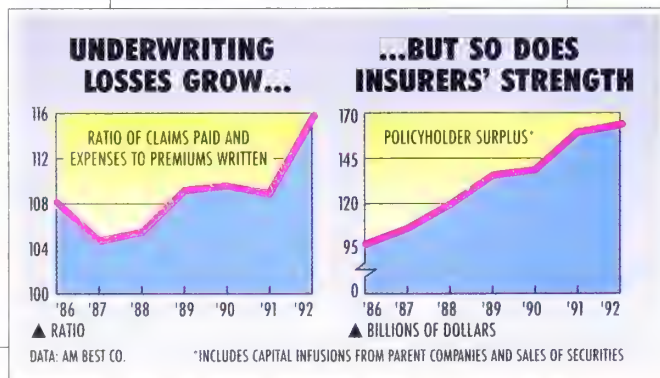
bond portfolios. Experts on the industry posit that it has yet to experience the sort of financial pain that permits big price hikes to stick. Until the industry works through its windfall, recurring industry predictions of "imminent" price

hikes may be wishful thinking.

The main problem, some industry-watchers say, is that there's too much capital. "Structural excess capacity is the reason why this downturn has gone further than people would have said that it would go in 1988 and 1989," says O.S. Kramer, a consultant based in Fort Lee, N.J. "It is driven by a fundamental supply-and-demand problem. And though insurers had good intentions coming out of their last downturn, they haven't become more disciplined on pricing."

EXPERTS DISAGREE. In light of Hurricane Andrew, many investors and Wall Street analysts don't agree with Kramer's assessment. "An industry that can lose 10% of its capital in one incident in my opinion is not overly capitalized," states David Seifer, a vice-president and analyst with Donaldson, Lufkin & Jenrette Securities Corp. "One accepts that the industry under-reserved by 10% to 25% estimates widely bandied about then 'you have to take from \$40 billion to \$75 billion out of surplus,'" he adds. "I'd say the level of pain is here. . . . If you've got no cash, I don't know what the next level of pain is."

Reacting to the impact of catastrophic losses on reserves, some parent companies had to bolster the resources of the property/casualty units. These units got some \$5.5 billion in capital, topping 1987's previous record of \$4.2 billion. The biggest infusion came from Prudential Insurance Co., which put \$900 million into PRUPAC, its property/casualty subsidiary. "After Andrew, PRUPAC was technically insolvent," says John Snyder, a senior vice-president with A.M. Best Co., the large insurance-rating



icy. "It didn't have any surplus." Insurance executives say the pain isn't sufficient to push up prices. Early, there's no return to any kind of pricing environment that would signal a hard market," says Frederic G. Marshall, president of Continental Insurance Co. Even in Florida, only 8 of the filings in 1993 before the state insurance commission for rate increases were more than 25%.

LAST YEAR EVER. To be sure, some measures of the financial performance of insurers have been dismal. In 1992, the industry paid out a record \$1.16 in claims for every \$1 in premiums written. With interest rates down, investment income, which usually offsets underwriting losses, declined for the first time in years. And in 1992, according to the Insurance Information Institute, the industry's rate of return—net income after taxes, as a percent of equity—was down, after hovering around 10% in the late 1980s.

But these factors were more than offset by insurers' capital-gains bonanza. Capitalizing on the drop in interest rates, insurers sold \$250 billion of the new billion of bonds in their portfolios. The bonds are carried at amortized cost on a statutory accounting basis, so they produced realized capital gains—to the tune of \$9 billion. The impact of this bonanza was dramatic. Industry surplus, assets minus liabilities, increased 2.7% in 1992, to \$163 billion. "The cycle should not turn yet," says industry critic J. Robert Hunter, president of the National Insurance Conference Organization in Alexandria, Va. Even with the incredible disasters of 1992, the industry's surplus grew, so it shows you how incredibly powerful their portfolios are."

How long the boosts to surplus will stall big price hikes isn't clear. Some analysts point out that cash raised from bond sales has been reinvested at relatively low rates, which will reduce cushion insurers have against future rates. The investment income that "the industry enjoyed immensely won't be able to be harvested in 1993," says M. Best's Snyder. "The industry has been able to pull a rabbit out of the hat every time. I don't see the rabbit in 1993. It will save them from underwriting losses."

ARE SELF-INSURERS. Yet even if the effects of the windfall wear off, several under trends may mitigate the insurance price cycle. Indeed, some experts see an evolution toward longer and deeper "soft" markets and briefer and harder hard markets. Corporate risk managers, who are becoming highly sophisticated insurance shoppers, are self-insuring more and more of their risks, and such alternative methods are gain-

ing market share. That means insurers are competing for a market whose growth rate is declining.

If these trends continue and a big swing in prices doesn't materialize, insurers might find themselves in a very different ballgame, one with new rules. "The industry has been conditioned to think in terms of cycles," says Paul Hasse, a principal with consulting firm McKinsey & Co. "But industry dynamics have changed, and many companies are

beginning to rethink their fundamental operating strategy. They have become more focused on their core businesses and operating skills and less concerned with trying to game the cycle." For many insurance executives, learning to price their product without paying regard to cycles might be even more uncomfortable than another Hurricane Andrew.

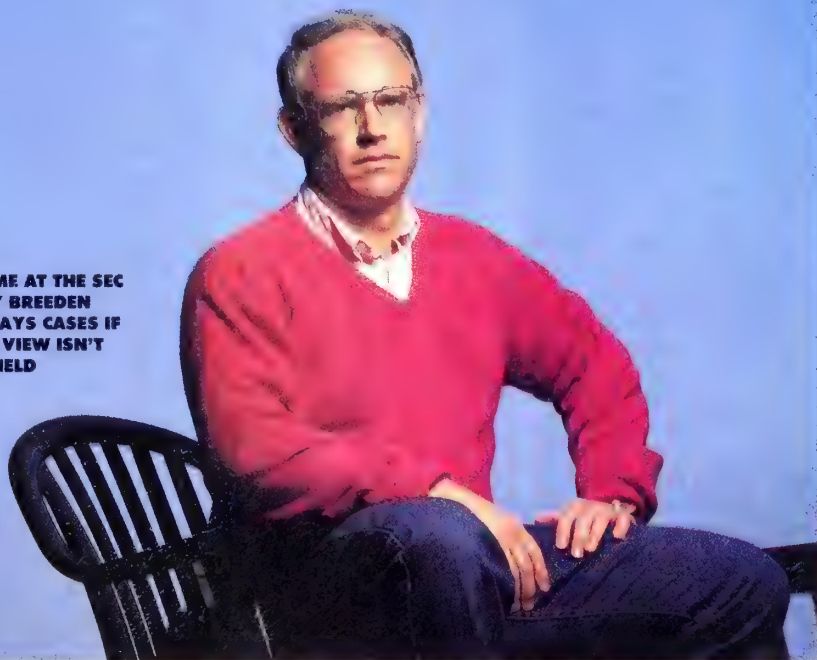
By Suzanne Woolley in New York, with Gail DeGeorge in Miami

REGULATION

WILL NEW BLOOD IMPROVE THE SEC'S CIRCULATION?

Breeden's exit may speed decisions, but problems remain

SOME AT THE SEC SAY BREEDEN DELAYS CASES IF HIS VIEW ISN'T UPHELD



Central & South West Corp. is a prisoner of the Securities & Exchange Commission. Back on Apr. 1, 1987, the company asked the SEC for permission to expand its burgeoning financial subsidiary, CSW Credit Inc. The Dallas electric-utility holding company wanted the credit unit to increase its purchases of accounts receivable from other utilities. The SEC staff recommended that the issue be heard by an SEC administrative law judge. Nearly two years later, in February, 1989, the judge O. K'd the utility's request. But the SEC staff appealed the ruling to the full commission, which must approve such changes for utility holding companies under the Public Utility Holding Company Act of 1935.

Now, six years after the initial request, CSW still awaits an answer. The

reason, SEC insiders say, is that the four sitting commissioners are deadlocked 2-2. Of course, the commission could have let the application fail on a tie vote. But Chairman Richard C. Breeden, who is expected to be succeeded by former American Stock Exchange Chairman Arthur Levitt Jr. within a few months, supports the application and won't allow that to happen, the sources say. The company declines comment. Through a spokesman, Breeden declined to comment because all the issues raised in the story are either in litigation or involve confidential SEC deliberations.

The CSW case is but one example of the SEC's often glacial system for handling contested administrative cases, which can involve anything from utility mergers to accounting irregularities to civil fraud. A two-year SEC task force

study, issued in February, found that appeals decided by the SEC in fiscal 1992 took an average of four years to complete, more than double the average in 1983. Meanwhile, the backlog of unresolved cases more than tripled.

The snail's pace creates enormous uncertainty for business and leaves those charged with civil violations of securities laws twisting in the wind, often for years. To get the lead out, the SEC task force guidelines recommend a 10-month deadline for administrative law judge decisions and nine months for commission rulings on appeals. "Justice delayed is justice denied," says Commissioner Mary L. Schapiro, who led the task force.

'VETO POWER?' In part, the problem stems from staff cutbacks. But there are more systemic reasons. The SEC's complex multistep process for adjudicating appeals is very time-consuming. And headstrong commissioners often wrestle for a year or two before reaching a majority opinion. The system also gives the chairman great power to tie up the process. According to interviews with current and former SEC officials, Breeden on several occasions delayed the disposition of cases if his view didn't prevail. Says former SEC chief economist Gregg A. Jarrell: "Breeden operated as though he had veto power on any commission matter."

To be sure, contested administrative proceedings constitute only a fraction of the hundreds of cases resolved each year. Over 90% of SEC administrative proceedings are settled. And Breeden has streamlined the process, doubling the adjudication staff to 17.

But those accused of violating the law still often pay a heavy price for the slow grinding of the wheels of SEC justice. Consider Arthur J. Huff. In 1986, SEC staff charged the PaineWebber Inc. compliance officer with inadequately supervising a salesman who had bilked customers out of \$7.6 million. The next year, a law judge recommended suspending Huff from the securities business for 60 days. But, due largely to wrangling among the commissioners, Huff's ordeal didn't end until March, 1991. The SEC overturned the law judge's decision, with two commissioners saying Huff—who remained with PaineWebber—fulfilled the standards for performing his job, and two others declaring the salesman wasn't



LEVITT: EXPECTED TO REPLACE BREEDEN IN MID-MAY

even subject to Huff's supervision. Huff couldn't be reached for comment.

Perhaps most vexing to insiders and outsiders is the extent to which delays at times are induced for political reasons. Sources cite a case involving two Coopers & Lybrand accountants. In 1989, an administrative law judge found that

ing that one member of the majority was about to leave the commission, nullifying his vote, Breeden refused to sign the opinion, sources say. The arrival of a new commissioner would allow Breeden to lobby for the third vote needed to impose sanctions. That happened on Aug. 26, 1992, although the penalty was reduced. "Breeden decided to shut the deck after the cards had been played," says one knowledgeable source. "That's cheating."

After reading about the episode in *BUSINESS WEEK*, the accountants sued in federal court, alleging that the SEC had denied them a fair hearing. The agency vigorously opposed efforts to probe its proceedings and contended that the *BUSINESS WEEK* article was false. But Edward H. Fleischman, Breeden critic then on the commission, wrote the court: "I disagree with arguments made and concessions presented to you on behalf of the commission." What's more, after his dissent from the Aug. 26 SEC decision, Commissioner Richard Y. Roberts demanded a retraction of the majority's claim in a court filing that the accountants shouldn't get access to SEC deliberations in the case.

Most disturbing for the SEC was Roberts' suggestion in his dissent that the whiskers on the case were reason enough to throw it out. "Countries have disappeared, and new ones have emerged during the decade that has passed since the alleged violations occurred," he noted. But the case remains unresolved.

The SEC deserves credit for undertaking an internal study and making progress in speeding administrative decisions. But critics claim proposed reforms don't go far enough. The commission, in fact, could be an ideal place for the Clinton Administration to deliver on promises to bring more efficiency to government. Getting the lead out of the SEC would be a worthwhile goal for incoming Chairman Levitt.

By Michael Schroeder in Washington

THE SEC'S SLOW WHEELS

COOPERS & LYBRAND

NOV. 12, 1987 SEC launches proceeding against two Coopers & Lybrand accountants, David J. Checkosky and Norman A. Aldrich, alleging they improperly audited Savin.

SEPT. 5, 1989 SEC administrative law judge recommends five-year suspension.

AUG. 26, 1992 SEC upholds decision, but reduces suspension to two years. Accountants later appeal. Appeal still pending.

CENTRAL & SOUTH WEST

APR. 1, 1987 Central & South West applies to SEC to expand its subsidiary, CSW Credit.

FEBRUARY, 1989 SEC judge recommends granting CSW's request. SEC staff appeals decision to full commission. Appeal still pending.

ARTHUR J. HUFF

AUG. 12, 1986 SEC launches action against Arthur J. Huff, PaineWebber vice-president, for failing to supervise an employee.

DEC. 15, 1987 SEC judge rules against Huff, recommends a 60-day suspension; Huff appeals.

MAR. 28, 1991 SEC overturns decision.

GEORGE C. KERN JR.

JUNE 29, 1987 SEC brings action against George C. Kern Jr., a lawyer at Sullivan & Cromwell, alleging he failed to disclose promptly a client's talks with a third party during a takeover contest.

NOV. 14, 1988 SEC judge recommends dismissing allegations; SEC staff appeals.

JUNE 21, 1991 SEC upholds ruling.

DATA BUSINESS WEEK

EXT BANK, 0 MILES

Ms and phone-banking are
ing branches ever scarcer

awrence Bullock always liked Bank of America's presence in Mendocino. The giant San Francisco-based institution long maintained a branch in tiny California town where Bullock manages Out of This World, a boutique that sells telescopes and other science nature paraphernalia. But in January, BofA shut down its Mendocino cash machine—the only one in town—and its branch, and Bullock wasn't pleased. "In Mendocino, they not only inconvenienced me, they inconvenienced a lot of merchants," he says. What's more, the absence of a cash machine makes it harder for shoppers there to make impulse purchases. Bullock used to know who had cashed BofA's ATM by the crisp twenties paid with, he says, but "you don't see many crisp twenties anymore."

Bullock's experience is hardly unique. Unconcerned banks have closed thousands of branches in the past three years. Increasingly, they're trying to get customers to bank by phone and use ATMs. But that can leave customers with fewer, often less convenient, bank offices. And it could also make it harder for elderly customers to reach their bank for some basic social

interaction as well as bank business.

Older people are reluctant to depositing their Social Security check or pension check," says New York State Senator Franz S. Sponbergh (D-Manhattan), a member of the Senate Banks Committee. He has elderly constituents who faced a half-mile walk to the nearest branch when

New York bank was closing a mid-Manhattan office.

ATMs? The decline in branches is pronounced. Some 4,000 bank and thrift branches closed from 1990 to 1992. The closing has been most dramatic on the West Coast. BofA, flush from its acquisition of Security Pacific Corp., has already trimmed 568 branches from its West Coast and plans to close more. In New York, Chemical Banking Corp. plans to close 80 branches as a result of a merger with the former Manufactur-



ers Hanover Corp. Seamus P. McMahon, a vice-president at Booz, Allen & Hamilton Inc., predicts that there will be as many as 15,000 fewer branches by the end of the decade. "If tellers are basically ATMs that have internal organs and have to take coffee breaks, why have them?" he says.

Why, indeed. Bank customers, particularly younger ones, are increasingly comfortable using ATMs and conducting bank business by phone. What's more, in-market mergers and acquisitions are making many branches redundant. And branch operating expenses are rising as

personnel costs, rents, and federal deposit-insurance premiums increase. As a result, a growing number of bankers are concluding that it doesn't make sense to maintain a large number of branches.

What does make sense to many bankers are branch networks composed of a smaller number of larger of-

fices. Today, says consultant Edward E. Furash, the optimal branch has \$40 million to \$50 million in deposits, up sharply from the \$15 million to \$20 million that would have been considered satisfactory just 10 years ago. Bank branches are being used to sell more products, such as mutual funds and annuities. Bankers are now going after what they call the greatest possible "share of wallet"—the largest proportion of a customer's investable assets. "The original goal of a branch was to gather deposits," says

Furash. "The new role is to foster a total relationship with the customer."

Despite these advantages, the branch closings could have a downside for banks. Branches help banks appear more personal and accessible than mutual-fund companies and securities brokers who rely on toll-free telephone numbers to sell their products. Shifting to fewer, larger branches will erode this competitive edge.

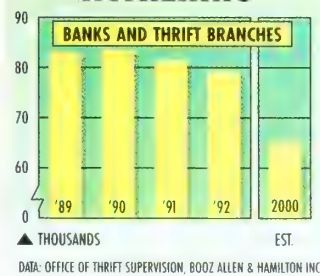
GOOD CUSTOMERS. Some banks recognize that closing branches can erode their valuable franchise among the elderly. A few are taking steps to remedy that. Even while it has pared 337 branches from its Florida network, First Union Corp. is adding minibranches in retirement communities.

Senior citizens "like getting to the bank," says James P. Robertson Jr., director of marketing for First Union's Florida subsidiary. "It's a social event as much as a business venture, and having a bank nearby is very important because as age increases, mobility decreases." And older people make good bank customers: They tend to like the safety of a sizable savings account. Even if a bank pays low interest, they generally remain loyal.

But other banks are adding to their offerings of electronic banking outlets and new bank products. Citibank, for one, has an outpost in New York City's Grand Central Station that houses 20 ATMs but no tellers. If more banks follow Citi's lead, old-fashioned bank branches might become as rare as ATMs in Mendocino.

By Kelley Holland in New York, with Russell Mitchell in San Francisco, Gail DeGeorge in Miami, and bureau reports

BRANCHES ARE WITHERING





**SOROS: HIS
NEWMONT
MINING STAKE
PUTS GOLD IN
A NEW LIGHT**

NOW, SOME OF WHAT GLITTERS MAY BE GOLD

Its price won't soar—but the market has likely bottomed out

Gold briefly hit \$875 an ounce back in January, 1980, and basically it's been downhill ever since. The yellow metal has staged several rallies over the years, but none were sustainable, and they turned out to be suckers' bets. So it's not surprising that gold's runup—\$26 an ounce, to nearly \$353 over the past six weeks—has been greeted with skepticism. Indeed, on Apr. 28 gold retreated to \$350.

But this time may be different. The market psychology is slowly turning in favor of gold. The stage is not set for \$800, \$500, or even \$400 an ounce any time soon. For that, you would have to see a far higher rate of inflation. But gold has probably seen its lows and should remain above them. Says Robert Guy, director of N. M. Rothschild & Sons Ltd.: "I'm confident the market has bottomed out."

BOLD MOVE. Gold had been edging upward for weeks, but the price surged on Apr. 23 (chart). That's when word came that Soros Fund Management, run by superinvestor George Soros, had purchased 6.8 million shares of Newmont Mining Corp. at 39½, a 7% discount to the open-market price of the stock. Soros bought the 10% stake in the Denver-based mining company from a company controlled by billionaire investor Sir James Goldsmith and a fund run by Lord Jacob Rothschild. In addition,

Soros may buy another 3.2 million shares at 39½, subject to Newmont's approval. The total deal comes to \$395 million for 13% of Newmont.

Soros is not known to be a gold bug, so his bold move put gold—a pariah investment for years—in a new light. "George Soros took on the central banks and won," says London-based analyst Andrew Smith of the Union Bank of Switzerland, referring to last year's European-currency crisis during which Soros reportedly made \$1 billion by betting against the British pound. "If he's bullish on gold, there's something here." Before Soros' purchase, notes Jeffrey A. Nichols, president of American Precious Metals Advisors, "the large-scale speculators were on the bearish side."

(*The Wall Street Journal* reported that Goldsmith poured more than \$300 million of the proceeds into options to buy gold bullion. Goldsmith did not divulge the terms of his options. But gold analysts say he could buy options on \$395 million worth of gold for less than \$10 million. The idea he would spend \$300 million on options that could expire worthless makes no sense, say analysts. Goldsmith

could not be reached for comment.

Even before the Soros announcement things were looking up for gold. Gold mining shares rallied in the first quarter, even as bullion prices stayed flat. Harry Bingham, who runs the \$525 million International Investors Fund, a mutual fund, says he first noticed changes a few months ago when foreign institutional investors called asking to buy stocks from his portfolio. "Perceptions are changing about the economy, inflation, and gold," says Bingham. "Worldwide disinflation is coming to an end, and the next move is reflation."

Right now, the inflation argument is more speculative than real. There's just no evidence of it (page 83). But lower interest rates in the U.S. and Europe make gold more attractive, because they reduce the cost of holding the metal.

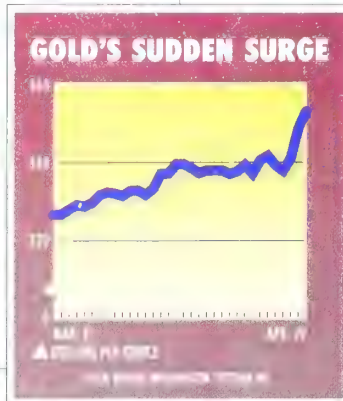
ASIAN HEDGE. The bulls' case also focuses on pure supply and demand. For several years, the market was flooded with gold from the former Soviet Union and the Middle East. Last year, central banks pounded the market, selling 14 million ounces, according to Jeffrey Christian, managing director of the CIBC Group. He thinks the banks will still sell 14 million ounces in 1993, but since demand is up, those sales won't sink the market.

There's especially big demand for gold in the Far East, which last year absorbed about half of worldwide production. Asians buy gold to hedge against local currencies and political uncertainties. Mainland China, in particular, has been amassing gold with its increasing wealth, purchasing an estimated 400 tons last year, according to Gary Cheung, executive director of the Hong Kong-based Sun Hung Kai Forex and Bullion Co. Japanese gold purchases have been declining for years along with its price, but that could change. In the long term, gold has never been cheaper.

Long accustomed to bear-market conditions, gold producers are not yet counting their profits. The recent move is "very encouraging," says Timothy Haddon, president and CEO of American Gold Inc., "but it's not a major event."

To move into high gear, says Haddon, gold would have to move beyond \$400 an ounce. So if George Soros is betting on \$400 gold, the superinvestor may wind up being sadly disappointed.

By Jeffrey M. Laderman in New York, with Sandra D. Atchison in Denver and bureau reports



JANE G. MARCIAL

MEET MUSIC—AND RETURNS—FROM 'BLIND POOL'

Blind pools" have a lousy reputation in the investing world. They are formed to merge or acquire an operating company with, supposedly, great growth potential. All too often, blind pools wind up as a net for stock manipulation schemes. In the hands of a smart, reputable executive, a blind pool can offer dazzling prospects. So it is with the \$7 million investors sank into RCL Acquisition Corp. when it went public in July, 1992. Those investors may have hitched their cash to a potential bright star.

RCL has attracted some big, savvy investors because of the seed-money organizers behind it, including RCL President H. Sean Mathis, former president of Ameriscribe, a major financial printer, and Mark Friedman, RCL's vice-president and a partner at the prestigious law firm Shea & Gould.

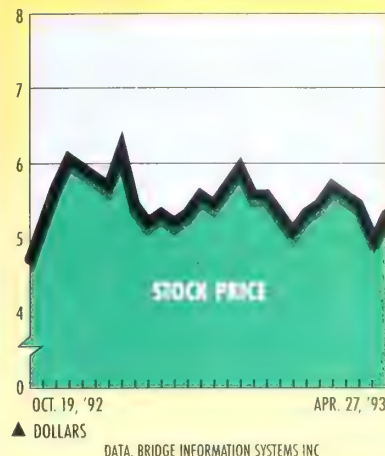
In February, RCL discovered an ideal target—HRM Holdings, whose Hauptwerk Record Manufacturing unit, a manufacturer and duplicator of audio and videocassette tapes for music and entertainment companies. HRM posted revenues of \$40 million and profits of \$8 million in fiscal 1992, ending last May 31. RCL and HRM have agreed to merge in a deal that should be completed sometime over the next two months. Once merged, the company will become RCL Digital Technologies.

BURN-BURNER. RCL's stock has held up well but has been no barn-burner, rising from 4½ a share in late October to early 6. But some pros, who believe a move may lie ahead, see tremendous earnings growth from RCL-HRM's share of the recorded-music market. RCL's stock represents an opportunity to get into the ground floor of the booming recorded-music business," says one money manager.

The big kicker to earnings is an impending deal by RCL-HRM to acquire a compact-disk-duplication facility in the northwest with annual sales of \$30 million. Analysts project that the company's CD sales should increase 50% by 1995.

Analyst Tom Heysek at RAS Securities estimates that the combined RCL-HRM should earn 41¢ a share on revenues of \$53 million in the year ending May 31, 1993, and 66¢ on revenues of

RCL ACQUISITION: READY TO TAKE OFF?



\$85.5 million in 1994. By 1995, the CD plant's sales should kick in, says Heysek, who sees RCL-HRM's earnings rising to 95¢ a share that year. Heysek expects shares of RCL to at least double in the next 12 months.

GIVE ME LIBERTY

To veteran technical analyst Andy Addison, the stock market has turned treacherous for the near term. "The market's important technical indicators have deteriorated substantially," he warns. His "overbought/oversold indicator," for one, registered a sell signal recently.

But for all his bearishness, the editor and publisher of *The Addison Report* newsletter is high on one stock: Liberty, a holding company that owns Liberty Life Insurance as well as Cosmos Broadcasting, which operates seven television stations located mainly in the South. Liberty's stock has been hitting new highs, at 33¾ a share, up from 24 in mid-November, and Addison believes the stock is on its way to the 40s.

It just may reach that level pretty fast. Whispers are that Liberty President and CEO W. Hayne Hipp, whose family controls 47% of the company's outstanding shares, plans to sell the Cosmos Broadcasting subsidiary, estimated by some analysts to be worth \$15.50 per Liberty share. Hipp denies that the Cosmos stake is for sale. Still, investors are paying only \$18 a share for the life insurance operations, or seven times estimated 1993 earnings.

Veteran insurance analyst Myron Picoult at Oppenheimer & Co., who is

also high on Liberty, figures the company will earn \$2.55 a share this year and \$2.95 in 1994, vs. 1992's \$2.25. Says Picoult: "Our enthusiasm is buttressed by the belief that life insurance equities could be in for a period of upward revaluation, especially for companies like Liberty that have exceptional regional recognition."

A GUSHER IN RUSSIA?

The decline in oil production in Russia has been powering the ascent of the stock of a small Canadian-based company, Beta Well Service, a provider of comprehensive oil and gas services. Beta's shares have spurted from 11½ a share in early February to 24¾ by Apr. 28. In view of that big move, it might seem at first blush that Beta has hit its peak. Bulls on Beta insist, however, that the stock is destined to go even higher, perhaps to 40 in 12 months.

What's the scoop? The long neglect of oil wells in Russia has been a blessing to Beta Well, insists Bill Block, who heads a research group at Greenway Capital in New York. Beta has been providing services to Canadian oil companies and, starting last May, to Russia, where it now operates six rigs. Four more rigs are scheduled to be in operation in Russia by next May. Through a 75%-owned subsidiary, Beta has won a contract to service 268 wells in Western Siberia. Beta President and CEO William Gordica announced on Mar. 15 that he signed two more contracts to service an additional 654 oil and gas wells, also in Siberia.

"The financial implications for Beta are significant," says analyst Pete Castellanos at Prudential Securities. He counts about 29,000 abandoned oil wells in Siberia, and "Beta has just scratched the surface of this opportunity," he says.

Andrew Racz, director of research at the New York securities firm A. J. Michaels says Beta is considering other options in Russia, including setting up an oil-equipment-manufacturing plant and a joint venture to trade oil as well as develop existing oil reserves in that nation. Beta's revenues and earnings from its Russian operations surged in the first quarter, and Racz figures Beta could earn \$3 a share in the year ending Sept. 30, 1993, vs. 14¢ in 1992, and \$5 to \$7 in 1994, when Beta is expected to have 15 rigs operating in Russia.

IBM HAS A NEW PRODUCT: EMPLOYEE BENEFITS

Its Workforce Solutions spin-off could make human resources pay

One evening in 1991, Walton E. Burdick, IBM senior vice-president for personnel, was sitting around with a group of fellow managers at the company's Armonk (N.Y.) headquarters, when the discussion turned to a pressing issue: how to cut Big Blue's annual \$1 billion-plus benefits costs for its 158,000 domestic employees. With health-care costs soaring, the problem had become a familiar one to companies. But out of that session IBM came up with a radical solution: It decided to spin off its huge human resources operation into a separate company called Workforce Solutions, which is now saving IBM millions of dollars annually. Says Burdick: "In retrospect, what we did seems so simple."

Many corporations are finding they can cut overhead and deliver better services to employees by getting out of the benefits business—and handing it over to consultants instead. IBM did them one better. While other businesses let outsiders take over key human resource areas such as 401(k) retirement plans, IBM in 1992 set up Workforce Solutions to handle everything. And if all goes well, it will soon be a profit center in its own right.

SINK OR SWIM. In setting up Workforce Solutions, IBM is forcing its former benefits staff to be more entrepreneurial. The new outfit still provides all human resources support to IBM's 13 business units, but Workforce Solutions can tailor its services to the units' differing needs. Workforce has eight specialty areas—ranging from occupational health and safety to career development. They allow an IBM unit to choose, say, additional support for overseas assignments or to put emphasis on building a diverse work force. Customizing benefits is a radical departure from the one-size-fits-

all mentality that long prevailed at IBM. "What IBM is doing makes a whole lot of sense," says Lance Tane, a partner at benefits consultants Kwasha Lipton. "Too often, line operations have been hostage to their internal benefits department."

The changeover to Workforce Solutions is saving IBM about \$45 million annually, in the form of reduced staffing, consolidation of offices, and new technology such as automated telephones. But rethinking the

HOW WORKFORCE SOLUTIONS IS EARNING ITS INDEPENDENCE

In May, 1992, IBM spins off its human resources and benefits operation into a stand-alone company, Workforce Solutions.

The spin-off begins providing customized services to each of IBM's 13 independent units. Before, IBM took a one-size-fits-all approach to benefits.

New software and technology streamline paperwork and increase productivity. The overall human resources staff shrinks by about a third, to 1,500 employees.

In late 1992, WFS begins handling business for other companies. For example, WFS helps National Geographic Society cut its 400-employee member-services department in half.

Workforce Solutions helps pare IBM's overall benefits costs by \$45 million.

Beginning in 1994, each IBM unit will be free to choose its own provider of benefits and human resource functions. WFS will have to survive on its own.

DATA: IBM, BUSINESS WEEK

way it delivers benefits has also fostered changes in IBM's medical plan. The company's coverage is still among the most generous of large corporations. But IBM is increasingly using managed care and imposing an annual \$40-a-head deductible for the dental plan. All told, such changes cut \$155 million from IBM's health-care tab in 1992 and shaved the company's per capita costs from about \$4,200 to \$3,900.

IBM employees haven't noticed any big changes, which is what IBM intended. "I would say service is a little better," says a worker, adding that she now gets more communications about benefits.

IBM is helping to keep Workforce Solutions competitive. It gave the spin-off a lock on IBM's business—but only through this year. After that, IBM units can

choose whatever benefits company they want. "Our focus is that everybody at Workforce has to get those customers back," says Workforce President William J. Colucci.

GTE Corp.'s J. Randall MacDonald, vice-president for employee relations, wonders how Workforce Solutions will distinguish itself from other benefits consultants. But Workforce is already trying to forge an identity, picking up accounts outside Big Blue. Last year, for example, Workforce signed up the National Geographic Society. IBM's reputation for excellence and generosity in the benefits area is what appealed to Donna Hasslinger, vice-president for member services at National Geographic. The organization wanted to cut by 50% the number of staff providing subscription and circulation services to society members. It turned to Workforce Solutions, no stranger to downsizing—to help devise a voluntary layoff plan. "They had

lot of hands-on experience, and showed," says Hasslinger.

Workforce Solutions' early success focusing attention on the whole idea of marketing internal operations to outsiders. "Frankly, we're very interested in IBM's approach," says Mary Jorda, American Airlines Inc.'s vice-president for personnel. "There are many things we do in the benefits area where we may be a low-cost provider."

If more companies begin selling the human resource services, there could be revolutionary changes in corporate benefits departments. Long seen as drudgery on the bottom line, benefits departments could become profit centers. IBM, which hasn't had much to crow about of late, may just be on to something.

By Tim Smart in Armonk, N.Y.

The inspiration for our new Club WorldSM seat.



© 1993 British Airways

With an adjustable lumbar support, a newly designed footrest and the privacy of side headrests, you'll think you're flying on cloud nine. *It's the way we make you feel* that makes us the world's favourite airline.

BRITISH AIRWAYS

The world's favourite airline

TIME WARNER'S TECHIE AT THE TOP

New Chairman Jerry Levin has seen the future, and it's multimedia

His path to power was one of the most Byzantine in the annals of Corporate America. Yet Gerald M. Levin comes off more as a scholar than a street fighter. In style and substance, the new chairman of Time Warner Inc. couldn't be more different from his late predecessor, Steven J. Ross. Ross was a wily and gregarious deal-maker who left the details to others. Levin is a self-effacing intellectual who spends hours learning about new technology such as fiber optics.

Four months after Ross's death from cancer, Jerry Levin's techie bent is transforming Time Warner. When Ross engineered the merger of Time Inc. and Warner Communications Inc. in 1989, he wanted to create a global media colossus. But the 53-year-old Levin has shelved Ross's rhetoric about worldwide clout in favor of concentrating on technology's role. "We have to nurture artists and journalists," says Levin in a rare interview. "But we also have to be intimately familiar with the technology that gets us to consumers."

Time Warner executives insist Levin's vision is no different than Ross's. But there's no doubt the company is radically shifting its emphasis. Two years ago, Ross and Levin were traveling the world in search of alliances with media companies to help them break into markets in Europe and Japan. Now, Levin is pushing for an alliance with U.S. West Inc., a regional Bell telephone company based near Denver. He spent much of last year unsuccessfully pursuing a similar partnership with IBM Corp.

NEW IMAGE. Levin's laser focus on technology is buffing the image of a company that has mostly drawn attention in recent years for the paychecks of its top executives or the shenanigans of stars such as Madonna. Nowadays, investors are more interested in Time Warner's gigahertz cable systems than its provocative lyrics or compensation packages. "Times change. This is a very different company than it was after the merger," says Francis T. "Fay" Vincent Jr., the former commissioner of Major League Baseball, whom Levin recently

nominated to Time Warner's board.

To a certain extent, Time Warner is simply responding to a communications revolution set off by digital technology. In 1989, few observers would have predicted that the media, computer, and telecommunications businesses would converge within a decade. Levin says he saw it coming, and he has been working feverishly to prepare Time Warner. Given his career path, that's a credible claim: Levin first made a name for himself at Time Inc. in 1975, when he persuaded his bosses to put Home Box Office on a satellite. Overnight, HBO became a national network and transformed cable television.

Today, Levin thinks the future isn't aloft but underground, where cable wires have snaked into more than 60 million U.S. homes. Digital compression now enables these wires to carry vastly more programming and information. Add a few high-tech gadgets, and subscribers can send signals back up the line. Suddenly, cable TV becomes a conduit for a dizzying array of services: news and entertainment, home shopping and banking, interactive video games, even telephone service. Not surprisingly, everyone from Apple Computer Inc.'s John Sculley to Microsoft Corp.'s Bill Gates wants in on this game.

But Levin is convinced that Time Warner is unique-

ly positioned to become a dominant player in multimedia. From *Batman* to *Barbarians at the Gate* to *Money* magazine, has the words and pictures to fill the electronic pipeline. It also has a cable network with 7.1 million subscribers. "It's our manifest destiny, because brings together all the parts of our company," he says.

But Levin's strategy carries enormous risks, not least its huge price tag. Executives at Time Warner estimate it will cost up to \$4 billion to upgrade its cable systems to offer these multimedia services. And the company must make the investment at the very moment that the Federal Communications Commission is rolling back rates for cable television, historically one of Time Warner's most reliable money spinners.

What's more, Levin must persuade

LINKING UP WITH LEVIN

To keep Time Warner at the forefront of multimedia, Gerald Levin is spinning a web of ties with high-tech and telecommunications companies

TOSHIBA

Bidding to supply advanced cable converter boxes to Time Warner's Orlando cable system; already owns a 6.25% stake in the company's cable and film properties

SILICON GRAPHICS, 3DO

Both are developing technology that could be used to make interactive video games or cable converter boxes



otoriously independent operating
tives that multimedia is a business
pursuing. For its movie and music
ons, where multimedia applications
easy to see, Levin hasn't had a hard
But the publishing company is still
g about for ways to squeeze *Time*
zine onto Levin's electronic super-
way (page 62). "I'm not at all pre-
to say that this is the wave of
ature," says Reginald K. Brack Jr.,
nan and CEO of Time Inc.

vin is an improbable evangelist.
ds and colleagues marvel at his
al discipline and brutal hours. But
those who know him well say he
ins a solitary figure in a business
ated by relationships. One rival
a executive points out that Levin
asn't named a chief operating offi-
to help him press his strategy. After
fell ill in November, 1991, and co-
Nicholas J. Nicholas Jr. was ousted
months later, Levin left their spa-
offices empty. Now he is virtually
on the 29th floor of Time Warner's
attan headquarters.

NG ALLIES. But if Levin prefers to
alone at the office, he knows he
o seek alliances outside. That's be-
Time Warner needs both hard-
and technical expertise to compete
multimedia. So Levin is forging a lat-
work of ties with computer and tele-
communications companies (chart). Most

of the deals are much
smaller than the proposed
U.S. West linkup. Time
Warner, for example, has
given \$5 million to Trip
Hawkins, whose Silicon
Valley firm, 3DO, is de-
veloping technology for a
machine that could dou-
ble as a video game play-
er and an advanced cable
converter box.

Levin's immediate goal
is to assemble technolo-
gy to build the world's
first fully interactive ca-
ble system in Orlando. By 1994, he
hopes to offer 4,000 cable customers
home shopping, video games, and movies
all at the push of a button. To build the
system and lay fiber-optic cable in the
rest of its systems, Time Warner is hik-
ing its 1993 cable capital expenditures by
\$100 million, to \$400 million.

Alliances between media and tech
companies have a checkered history.
Japan's Sony Corp. and Matsushita Elec-
tric Industrial Co. paid top dollar for
film studios in the late 1980s to get en-
tertainment programming for their ad-
vanced TV sets and other electronics
products. But both companies have
struggled with the idiosyncrasies of Hol-

LEVIN'S LASER FOCUS ON TECHNOLOGY IS IMPROVING THE COMPANY'S IMAGE

lywood. And some ob-
servers argue that the
technology side of these
companies can lead the
entertainment side a-
stray. Sony Music Entar-
tainment, for example,
must put its artists on
Sony's new MiniDisc
product regardless of
how successful that for-
mat turns out to be with
consumers. "They're still
on the wrong end" of the
equation, says Robert J.
Morgado, chairman of

Warner Music Group.

Time Warner decided what it wanted
to offer its Orlando customers before
talking to technology companies. And
when it did, it cast a wide net: AT&T,
Scientific-Atlanta, Silicon Graphics, Sun
Microsystems, and Hewlett-Packard, to
name a few. "Nobody out there is smart
enough to know who the winners and
losers are going to be," says Steven
Rattner, a general partner at Lazard
Frères & Co. "Companies should abso-
lutely hedge their bets."

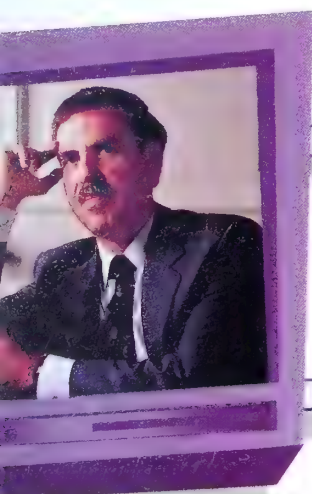
FINANCIAL PRESSURES. But some critics
say Levin's strategy has some major
weaknesses. For one thing, Time War-
ner still shoulders \$10.1 billion in debt
from the merger. As a result, the com-
pany's biggest deals are still driven by
financial pressures as well as strategic
opportunities. Take Toshiba Corp. In
late 1991, Time Warner sold the Japa-
nese computer giant a 6.25% stake
in its Warner Brothers studio, cable
company, and HBO for \$500 million—
and sold another 6.25% stake to
Japanese trading firm Itochu. The
company used the \$1 billion to re-
duce some of the debt.

Time Warner says Toshiba could
help it build the first interactive cable
network in Japan, as well as keep it
abreast of technological developments.
But executives familiar with the com-
pany say Time Warner could have got-
ten those benefits through a con-
ventional vendor relationship.

Indeed, Toshiba says the first
year of its partnership with
Time Warner was primari-
ly an educational experi-
ence. "The strategic alli-
ances are a debt
reduction strategy mas-
querading as a technology
strategy," says one media
executive familiar with the
company.

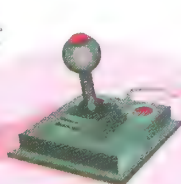
True, Levin is taking steps
to reduce the specter of debt.

Ross contended that cash from strate-
gic partners would be enough to pay
down the debt. But Levin is biting the
bullet with more conventional refinanc-



SEGA OF AMERICA

Teaming up with Time Warner
and Tele-Communications to
start a cable network that
offers interactive
video games



U.S. WEST

May buy a \$2 billion equity
stake in Time Warner and
could help it operate a
telephone network
on cable



Supplying Time Warner
with a high-speed
digital switch
to route pro-
gramming to
individual
subscribers



DATA: COMPANY REPORTS,
BUSINESS WEEK



FILLING THE PIPELINE

Time Warner could use the Orlando cable system to push a variety of products:

VIDEO ON DEMAND

Warner Brothers films such as this summer's *Dennis the Menace* or Home Box Office productions such as *Barbarians at the Gate*

OTHER ENTERTAINMENT

Samples of music or interviews with Warner Music artists such as En Vogue

INFORMATION

How-to tips from Time-Life Books, financial advice from *Money* magazine, home improvement ideas from *Martha Stewart Living*

DATA COMPANY REPORTS



FROM FAR LEFT: JAMI GARNER, EN VOGUE, WALTER MATTHAU



ing, swapping Time Warner's preferred equity for cheaper long-term debt. This has reduced the company's debt service and pushed its maturities out a decade or more. Media analysts say that Time Warner's balance sheet doesn't look much different from other cable giants, such as Tele-Communications Inc., which loaded on debt to finance enormous expansion during the 1980s.

Levin is even open to raising cash by selling off or otherwise changing Time Warner's minority stakes in companies such as Turner Broadcasting System Inc. In recent talks with TBS Chairman Ted Turner, for example, Time Warner expressed interest in buying Turner's entertainment networks while selling out its interest in Cable News Network. Owning 100% of some of Turner's assets rather than 20.6% of the whole company would improve Time Warner's balance sheet, since the cash flow from these assets would show up on the company's income statement.

A BETTER FIT. Some observers say the Turner talks point up Levin's characteristic pragmatism. As a top Time executive, Levin championed buying 50% of CNN when Turner offered it to the company in 1985. Nicholas, who then headed Time's video group, vetoed the deal. Now Levin seems to be forsaking CNN in favor of the Cartoon Network or TNT. Executives familiar with the company say Levin recognizes that these networks are a better fit with properties such as Warner Brothers and HBO, although others profess shock at his willingness to abandon his passion for CNN.

Levin's pragmatism is invaluable in cultivating new relationships in the fast-changing world of technology. The IBM talks are a good example. According to IBM insiders, the two companies spent months planning a joint venture called Gemini, which would have drawn on

Time Warner's software and IBM's expertise in switches and the video servers that store vast amounts of data in digital form. The computer giant would have anted up \$500 million for a stake in Time Warner's entertainment assets. But after several meetings with former CEO John F. Akers, Levin realized IBM's interest was waning as it became consumed by its own problems.

So Levin turned his sights to a telephone company. And in short order, he

was in talks with U.S.

West. Analysts say such an alliance would make strategic as well as financial sense, since Time Warner is anxious to offer some form of phone service via cable. To be a contender in the \$80 billion local phone business, Levin will need switching capacity far more complex than anything he has ever dealt with.

U.S. West has the knowhow and service to operate such a system for Time Warner. Bankers familiar with the co-

THE PAPERLESS MAGAZINE? WELL, NOT YET

Forgive the folks at Time Warner Inc.'s publishing company if they seem nonplussed by all the talk about electronic superhighways. It's not that the print types doubt that a revolution is on the way: *Time* magazine devoted a recent cover story to the subject. They're just not sure what firepower they bring to Gerald M. Levin's high-tech campaign. "There are no obvious answers or immediate directions to go in," says John Papanek, who was just named editor-in-chief of Time Life Inc.

Papanek should know. Until recently, his job was to find ways to channel Time's magazines into the parent company's multimedia pipeline. After a year of research, though, he came up with few proposals with any real revenue potential. Feeling stymied, Papanek asked to be moved to Time Life. The children's and educational books published by that division have more obvious multimedia applications. Papanek, who used to edit *Sports Illustrated*, believes magazines will someday be delivered in electronic form. He's just not sure when or how.

That's a common refrain among publishers and editors at Time Inc. Chairman Reginald K. Brack Jr. has a Papanek's portfolio to another senior executive, Kelso F. Sutton. But he's underwhelmed by current multimedia uses for magazines: "The ones I've seen so far seem kind of awkward," says Sutton. "Our task is to figure out how to bring these ideas to life."

THE NEXT STEP. For the most part, efforts have been limited to CD-ROM technology. Working with sister company Warner New Media, Time recently released a video version of *Clinton: The trait of Victory* on CD-ROM. The disk contains pictures taken by Time photographer P.F. Bentley during the campaign. The disk, which sells for \$29.95 at computer stores, adds music and some animation. It can be played on an IBM or Macintosh computer. Time also has produced ROM products based on reporting from *Time* and *Sports Illustrated*.

The next step is to figure out how to deliver magazines via cable. Nobody believes viewers want to read *Pech-*

y say the deal, the details of which still being worked out, has more than a 50% chance of going through. In return for access to Time Warner's entertainment properties, U.S. West would invest \$1.5 billion to \$2 billion for an equity stake.

MEBODIES. Levin also established a relationship with AT&T by giving it the contract for a high-speed switch for the Orlando system. Because of the huge cost of upgrading systems, most observers think cable companies and phone companies will end up cooperating to provide video and voice services over the fiber-optic network.

Levin's flexibility may be tested further when the Orlando system is up and running. He is sanguine that subscribers will want a panoply of multimedia services. But some media experts wonder whether Time Warner is overestimating the market. Archival TCI, for example, plans to spend \$2 billion to equip its cable network with fiber-optic and compression technology. But it's holding off on some of the more expensive switching devices and video storage facilities that Time Warner is installing in Orlando. Why? TCI isn't sure many interactive services customers really want. Time Warner is "assuming that people are never going to want to leave their homes again," says Denise Russo, editor of *Digital Media*.

However large a business multimedia becomes, Levin can't afford to forget he is still running a complex and diffuse media empire. Time Warner's businesses are humming nicely: Its cash flow jumped 12% in the first quarter of 1993, to \$630 million, on revenues of \$3.3 billion. (After paying dividends on its preferred stock, it lost \$124 million.) For the year, Time Warner's operating income could rise 6.5% to \$2.7 billion, on sales of \$13.9 billion, says Christopher Dixon, a PaineWebber Inc. media analyst.

But Levin hasn't finished the arduous task of melding the disparate cultures of Time and Warner. At the moment, for example, he is mediating a low-grade feud between Warner Brothers Chairman Robert A. Daly and HBO Chairman Michael J. Fuchs over the Hollywood studio's free-spending ways. With Time Warner making the digital highway the focus of its strategy, some outsiders think the company needs to be harmonized. "He has to get all the divisions marching to the same drummer," says Frank J. Biondi Jr., CEO of Viacom Inc. and an old colleague of Levin's.

Strengthening his senior management

SOME MEDIA EXPERTS WONDER WHETHER TIME WARNER IS OVERESTIMATING MULTIMEDIA

team would help matters. Some observers think Levin should name a chief operating officer, who could advise him on thorny issues such as last year's censorship controversy over rap musician Ice-T or the more recent flap with Walt Disney Co. over an ad campaign for Time Warner's Six Flags theme park chain. But executives close to Levin say he doesn't want such help because

he buys Ross's philosophy that it's better to have strong operating executives with plenty of autonomy. Even if Levin did name a COO, some observers doubt he could elevate one of the company's five operating chiefs without alienating the other four.

So for now, Time Warner must rally around its soft-spoken chairman. Shareholders are certainly applauding his vision: Time Warner's stock has risen 30% since Levin took the helm. Now, if he can marshal the company's resources behind his high-tech blueprint, Levin will put his indelible stamp on the empire that Steve Ross created.

By Mark Landler, with Bart Ziegler in New York, Ronald Grover in Los Angeles, and bureau reports

on a TV screen. But Brack thinks some of the service features are reformatted and off-putting to viewers: As examples, recipes from *Living*, financial advice from *Money*, or home improvement tips from *Martha Stewart Living*.

In the meantime, Brack wants to further expand his products into conventional TV. Several *Time* content elements have lugged cameras to interview with notables such as President Hosni Mubarak. The footage later appears in such programs as *Nightly News* and the *MacNeil/Lehrer Hour*. Brack values this mostly for its promotional value it offers the network, since it brings in relatively little way of revenue. The journalists are generally receptive as well. But *Time* Managing Editor James R. Gaines doesn't want such experiments to be intrusive: "The day our journalists are talking about multimedia or synergy of magazines," he says, "we're in trouble." For now, Time Inc. has its hands full



TIME IS DABBLING IN CD-ROM ADAPTATIONS

just competing in the regular magazine world. Brack stumbled in 1991 when he reorganized Time's sales force to promote the entire magazine group rather than individual Time titles. Some media buyers say that this particularly hurt magazines such as *Sports Illustrated*, whose ad revenues dropped 10.7% in the first quarter of 1993, according to the Publishers Information Bureau. Brack has since restored the emphasis on titles. He acknowledges that ad sales are weak. But he notes that strong circula-

tion gains boosted Time Inc.'s overall first-quarter income by 27%.

Gaines is also struggling to fix *Time*. The flagship magazine has gotten a cool reception from Madison Avenue since it underwent a controversial redesign last year. And rival *Newsweek* has made gains by contrasting itself with *Time*'s somewhat softer image. *Newsweek*'s ad revenue jumped 15.4% in the first quarter of 1993, while *Time*'s slipped 1.1%. Now, Gaines is tinkering with the redesign by restoring a more conventional newsmagazine tone and re-

vamping The Week, a collection of news briefs at the front of the magazine. Says Gaines: "I'd like to make it less of a rote summary."

He has ample motivation. *Time* staffers say Levin has told them the magazines have a place at Time Warner—so long as they remain editorially strong. Given their limited potential as multimedia vehicles, Time Inc. has to make sure its plain-vanilla products still pack plenty of flavor.

By Mark Landler in New York

WORKSTATIONS



A SILICON GRAPHICS VIDEO DISPLAY: TIES TO HOLLYWOOD ARE KEY

SILICON GRAPHICS' NEXT STOP: THE LIVING ROOM

It's jockeying to be a prime player in the digital media market

If 1993 ended tomorrow, it would still go down as a blockbuster year at Silicon Graphics Inc. In late January, the company surprised other computer makers with new machines that rival the power of Cray Research Inc.'s supercomputers. That helped push its stock to an all-time high of 33. In February, the company leaped into the media spotlight when President Bill Clinton and Vice-President Al Gore used a visit to its Mountain View (Calif.) headquarters to kick off their national technology initiative. And the company's 3-D graphics workstations, which have been creating movie special effects since *The Abyss* in 1987, played a key role in creating Steven Spielberg's upcoming *Jurassic Park*. SGI machines will even appear in scenes of the modern-day dinosaur tale.

But none of this may be as important as what Silicon Graphics still has on its calendar. Before the year is out, Chairman James H. Clark and Chief Executive Edward R. McCracken expect to position SGI squarely in the middle of what could prove to be a huge new market. As computers,

communications, consumer electronics, and digital media converge, cable-TV operators and phone companies are planning information superhighways to carry digitized movies, interactive games, video phone calls, and on-line shopping (page 68). These "digital media" services will require powerful computers called servers to store reams of digitized data as well as technology to reproduce graphic images on TV screens.

Both, it turns out, are SGI specialties. Since the company was started in 1982, it has distinguished itself from Sun Microsystems Inc. and other workstation makers by concentrating on sophisticated, three-dimensional graphics. SGI com-

puters are used to model drugs at Genentech, design cars at Ford, and develop aircraft at Boeing. Such customers will be SGI's mainstay for years. In part because of its advanced graphics and history in Hollywood, SGI is becoming a serious player in the emerging world of digital media. "I keep getting dragged into the consumer area," says McCracken.

SPEEDY DOTS. Indeed, Silicon Graphics is being wooed as a technology partner by some of the biggest names in media (page 68). Clark won't confirm it, but industry sources say he's talking with Time Warner Inc. for a deal to use SGI servers to route digitized cable-TV signals to homes. The deal might also include providing technology for a TV-set cable-converter box. Time Warner cable system

(page 60). SGI has also met with No. 1 cable operator Tele-Communications Inc. and various phone companies.

Digital media represents a huge opportunity. While SGI's existing business is growing briskly—revenues are expected to jump 27%, to \$1 billion, for the fiscal year ending June 30—the new markets would be gravy. McCracken expects SGI's revenues to grow at least 30% annually over the next few years. "Digital media is the big story for Silicon Graphics," says Sanford C. Bernstein & Co. analyst Barry F. Willman.

Consider the potential markets: According to Carmel (Calif.) market researcher Paul Kagan Associates, shipments of digital cable-converter boxes will grow from 320,000 this year to 1.5 million in 1994 and 4.5 million in 1996. In addition, the cable industry will need to retrofit its networks with hundreds of millions of dollars worth of computer gear to store and distribute digitized movies, games, and other services. Naturally, other manufacturers, from IBM to Japan's Matsushita Electric Industrial Co., want in on the action, too.

What could set SGI apart is the way its workstations create stunning 3-D video images that can be manipulated quickly. SGI machines do that better than ordinary workstations and much more cheaply than supercomputers can. SGI uses a set of custom-designed circuits that moves the tiny dots, or pixels, that form video images around the screen quickly. And high-capacity circuitry in the computer speeds data among parts

DIGITAL DEALS

Silicon Graphics has signed up partners...

Product	Partner
DIGITAL FILM SYSTEM	Eastman Kodak Co.
MOVIE SPECIAL EFFECTS	Lucasfilm Ltd.
INTERACTIVE GAMES	Magic Edge Inc.

...but bigger ones could be on the way

Product	Potential partners
DIGITAL CABLE-TV SERVERS	Time Warner, TCI
DIGITAL CABLE-CONVERTER BOXES	Scientific-Atlantic Inc.

DATA: SILICON GRAPHICS AND BW

T O M S E A V E R

Gardener, Baseball Hall-of-Famer



Gardening is an important part of my life. I'm often out in my garden by seven.

I love the smell in the air, the early morning light.

My wife Nancy gave me a bronze plaque.

It says "He who plants a garden plants happiness." That's the way I feel.

I use Miracle-Gro to make everything in my garden look its best.

I learned that secret back when I was a rookie gardener.

Tom Seaver



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of the machine. That's critical for video. Just one second of it gobbles up 30 million bits of data in uncompressed form.

Hollywood, which had been using supercomputers for special effects, immediately saw the potential of SGI's technology. Lucasfilm Ltd.'s Industrial Light & Magic Inc. has used SGI machines since the mid-1980s. "Our work couldn't be done without Silicon Graphics machines—or at least, I couldn't afford it," says Michael Backes, head of the American Film Institute unit that did graphics for *Jurassic Park*. SGI machines also help produce music videos such as Peter Dinklage's *Steam*.

FLIGHT SIMULATOR. Lately, SGI has gotten even tighter with Hollywood. On April 10, it signed a deal with Lucasfilm to create faster and less-expensive special effects. On April 20, it announced a digital video production system using a server that stores up to 30 hours of video. At Eastman Kodak Co. plans to use SGI machines for a new digital-film system for movie studios. Interactive entertainment is another focus of talks. Mountain View startup Magic Edge Inc., for instance, uses SGI machines in a flight simulator.

But the "big carrot," Clark says, is digital cable TV. SGI has already devised a scheme in which its servers would be placed in neighborhoods to convey digital media to homes. And SGI wants to play a role in low-cost consumer devices that would replace conventional cable-TV decoder boxes. These boxes would handle requests for movies from vast video libraries, connect to interactive shopping services, and allow users to play interactive games. Most likely, he says, SGI would license to an electronics maker the microprocessor technology it acquired last year with the purchase of MIPS Computer Systems Inc., along with SGI graphics chips and software. Such boxes, which analysts say might be built by Japanese consumer-electronics companies and such U.S. makers of cable converters as Scientific-Atlanta Inc., should be available by 1995, says Clark.

Despite its advantages in digital media, SGI faces obstacles. Its technology may be too pricey for the consumer market. And competitors are multiplying. IBM and Hewlett-Packard Co. both want to sell video servers. Startup 3D Co. has backing from Time Warner, AT&T, and Matsushita for its home-video machine. And on April 27, Intel, Microsoft, and General Instrument launched a converter-box alliance. Finally, Sun says it's talking to the same companies as SGI. It will take more than special effects to make these rivals go away.

By Robert D. Hof in Mountain View, Calif.

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Rethinking the Computer 1993.

Information Technology in Business: The New Partnership.

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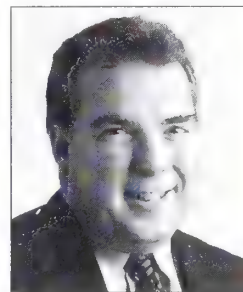
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ELBOWING INTO CABLE TV'S HOME-SHOPPING SLUGFEST

Telemarketer CUC will use low prices to win couch potatoes

Walter A. Forbes is nothing if not patient. Twenty years ago, he and a group of other venture capitalists formed Comp-U-Card International with the idea of marketing merchandise to consumers at home via computers. When the PC craze didn't catch on fast enough, Comp-U-Card nearly went under.

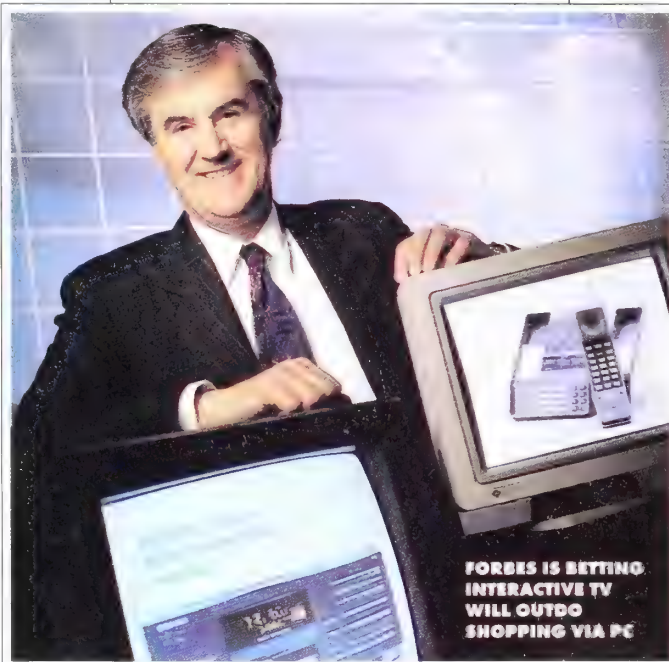
Forbes, taking charge as chairman and CEO in 1976, rescued the company by switching to telephone sales. Customers pay an annual fee for access to Comp-U-Card's data base of deals on travel, auto services, insurance, and more than 250,000 products. Based in Stamford, Conn., and renamed CUC International Inc. in 1987, the outfit has climbed gradually into the black and last year reported \$59 million in earnings on \$742 million in sales from telemarketing.

Now, Forbes wants to return to CUC's *raison d'être*: high-tech home shopping. But instead of counting on computers, he's placing his bets on interactive-TV systems. CUC wants nothing less than access to the 60 million U.S. cable-TV subscribers. "Our goal over the next three years is to be in everyone's living room, kitchen, and family room," boasts Richard Leegant, CUC's senior vice-president.

FIERCE STRUGGLE. This time the technology is ready to turn Forbes's vision into reality. Computer and software makers are racing to build converter boxes that let an ordinary TV set display menu-driven screens and cursors. Telephone and cable operators are eager to deliver the interactive signals. And CUC wants to be among the first services they carry into the nation's cable-equipped homes.

With interactive-TV technology, shoppers will use an ordinary remote control to choose products from the screen, which displays pictures, de-

scriptions, and prices. CUC has signed six contracts in the past 12 months (table) and by October will be available in the nine biggest U.S. markets. For cable companies, every new CUC membership means another monthly fee from a viewer who wants the shopping service. For CUC, cable addicts could bring in a bo-



nanza. Jupiter Communications Co., a New York-based firm that researches electronic media, predicts that interactive-TV sales will approach \$10 billion by 2001, with 17.6% of U.S. households shopping by TV.

But CUC's strategy has risks for a company with 28 million members and a profitable niche in telemarketing. The competition in home shopping is intense.

QVC Network Inc. and Home Shopping Network together do a \$2 billion-plus business, dazzling homemakers with cubic zirconia and other trinkets. More such programs are on the way as cable channels proliferate. And many home shopping services will want to get in on interactive sales, too, using the new technology to show products from different angles or let viewers choose between, say, electronics and clothing.

'FEAR FACTOR.' Retailers who market their wares through on-line computer services are another challenge. Domino's Pizza, Hammacher Schlemmer, and J.C. Penney are just three companies whose products you can order via your home PC. And techies apparently spend more money: The 100,000 consumers who go through CUC through on-line services buy twice as much as the company's phone customers.

But Forbes insists that many people remain scared of computers. "If there's a keyboard, it's too hard, and people aren't going to bother," he says. With a remote control, "you've reduced the fear factor." Another selling point: Pictures of goods on TV screens are far superior to the grainy computer images on PC-interactive systems.

As for the rival home-shopping programs, Forbes believes they're a completely different product. A big part of their attraction is their slick salesmanship, complete with countdowns and cut models. "People are buying from QVC or Home Shopping for the entertainment," says Jupiter Communications President Joshua M. Harris. CUC customers, by contrast, are value shoppers. And in these price-conscious times the discounts alone should keep bringing in new members. For example, a Toshiba 32-inch color TV with stereo and picture-in-picture carries a manufacturer's list price of \$1,799 and can be found in discount chains for about \$1,000. Through CUC, it's \$869.

Such savings may more than offset the "entertainment" of home-shopping cable channels. And Forbes is as patient as ever. "We get an award for persistence," he says. What he would really like, of course, is an award for blazing the trail in interactive-television marketing.

By Chris Roush in Stamford, Conn.

CUC'S MOST PROMISING CONNECTIONS

- ▶ GTE Corp. and Daniels Cablevision offer CUC's interactive-TV shopping to 50,000 Carlsbad (Calif.) residents.
- ▶ BellSouth next year will test an interactive-TV system in 1,000 Nashville homes that will get CUC discounts.
- ▶ USWest is using CUC's services in interactive PCs in Omaha, Seattle, and Minneapolis. TV is next.

DATA: CUC INTERNATIONAL

1992



1993



Isn't it amazing how quickly friends can turn on each other?

Last year it was a team effort. This year it's every man for himself. See the greatest names in golf at the 16th Annual Liberty Mutual Legends of Golf—Saturday, May 8, 2:30pm EST and Sunday, May 9, 4:00pm EST—on ABC-TV.

Watch it with a friend.

Revino vs. Floyd vs. Weiskopf



Rodriguez vs. Hill vs. Palmer



TRANSPORTATION

THIS TIME, CONTINENTAL MAY ACTUALLY FLY

Out of Chapter 11, it has lower debt—and a co-pilot in Air Canada

For weeks, executives at Continental Airlines planned a blitz of television commercials and newspaper ads to trumpet the good news: The carrier emerged from two and a half years of bankruptcy protection on Apr. 27. But the airline's employees turned down a chance to toast the occasion with a gala celebration. Instead, worker councils accepted a low-key "thanks" from management and humble pins bearing the company's logo and the year of rebirth.

It's hardly surprising that the carrier's workers are in no mood to party. Many of them have been down this road before: Continental Airlines Inc. survived its first round of Chapter 11 in 1986, only to seek shelter again in 1990 when debt, recession, and the Persian Gulf war battered it. True, Continental is the only airline so far to emerge from the industry's recent round of bankruptcies. Pan Am, Midway, and Eastern were forced into liquidation, and TWA and America West are still struggling to reorganize. But employees know all too well that there will be little room for error if the economy falters, fare wars break out, or fuel prices spike. "We've been beaten up for

so long," says one pilot, that "we just want to have a job and be able to pay our bills."

For a change, that goal seems realistic. Confounding skeptics who thought the airline might never leave bankruptcy, the "new" Continental holds tremendous promise. It boasts a strong route structure and costs that are up to 18% lower than its three largest U.S. competitors'. And the carrier is primed for action. On Apr. 27, Continental closed on a \$450 million investment from Air Canada and Fort Worth investors Air Partners LP. The carrier is expected to

announce shortly a \$3 billion deal for nearly 100 Boeing jets, including 50 737s and 5 777s. Sources also say a major alliance may soon be struck with Air France. And flush with \$600 million in cash, Continental is upgrading its planes and facilities, with bold marketing strategies under way to lure business fliers. "Continental has more money today than it's had in its 55-year history," says Chief Executive Robert R. Ferguson III. "This is the first step in the remaking of the company."

AFFORDABLE FLYING. The deal opens immense possibilities for Air Canada as well. That airline holds a 24% vote stake in Continental, but it has an option to buy out the Texas investors should U.S. airline-ownership laws change. Air Canada Chairman Hollis L. Harris cautions that "a very good potential transaction is on our part." Air Canada has extensive routes throughout its home country and marketing links with Air France and United; Continental has links with Scandinavian Airlines. Air France Chairman Bernard Attali has denied it, but industry rumors persist that Air France may soon invest in Air Canada and forge links with Continental.

Alliances aside, Ferguson has a work cut out for him at Continental. He must polish the carrier's image, which remains badly tarnished. He must modernize its fleet. And he must recruit a new cadre of managers to the airline to help pilot its growth. Continental's balance sheet, while in tune with the rest of the industry, is still heavily leveraged. The alliance with Air Canada will be a personal test as well: Ferguson, 44, and Harris, 61, were rivals at Continental. In 1991, Harris was ousted from the top spot at Continental and replaced by Ferguson (box).

A sullied image is the bane of Continental's existence. Its low-rent reputation dates to Frank Lorenzo and his efforts to mesh a hodgepodge of airlines, including People Express, New York Air, and Frontier. Over the past two years, business passengers have been reluctant to book flights on the carrier that might not pay off on its frequent-flier awards. The airline is now counting on its nonbankrupt status to boost bookings, and it's speeding up plans to refurbish planes, facilities, and service. But Continental's ratings remain low. In the most recent Transportation Dept. monthly finding, Continental had more customer complaints than any other major airline except TWA.

Now, Continental is spending more than \$40 million on its "Bus-

THE NEW CONTINENTAL: SAME SIZE, BUT A BETTER BALANCE SHEET

	December, 1990	December, 1993*
REVENUES	\$6.2 billion	\$6.2 billion
OPERATING LOSS	427.0 million	12.9 million
DEBT	4.0 billion	1.8 billion**
EQUITY	-1.2 billion	610.0 million**
EMPLOYEES	42,000	41,000
FLEET	340 planes	318 planes
MARKET SHARE	8.63%	9.2%

*Company estimates

**Estimated for Apr. 30, 1993

DATA: COMPANY REPORTS, AVIATION INC.

First" service for international travelers. Continental calls it "first class at a business-class fare." The goal is to win business travelers, who typically pay five times more per mile than leisure travelers. If Continental can snare its "share" of higher-paying customers, it could boost revenues by some \$500 million a year, figures John W. Nelson, Continental's executive vice-president of marketing. Nelson says the airline manages to narrow the gap in the 1980s, but bankruptcy cut that. Now, Air Partners figures it could take two to five years to finish overhauling the airline's image. But the upshot says that the success of its investment does not depend on closing the gap.

Assembling an attractive fleet is also crucial. Simply to match its bigger rivals—American, United, and Delta—Continental must upgrade its aging 331-jets. Last year, it began redesigning interiors and repainting exteriors with Continental's new blue-and-gold color scheme and logo. But the average age of Continental's jets in December, 1992, was about 14 years—more than four years older than the average for the other three's jets.

THE DEALER. So Continental is counting on a huge \$3 billion to \$4 billion plane order to be financed by General Electric to replace many of its aircraft over the next several years. Industry executives also say Ferguson was in Toulouse, France, visiting with Airbus Industrie in early April and could strike a deal for additional planes from the consortium. Although the airline burned numerous creditors during its bankruptcy, shareholders and other lenders have "short memories," says one analyst, and industry observers say that the legions of plane makers and leasing companies hungry for business will assure the airline's help.

The link with Air Canada could also play a role in Continental's growth. The airline's immediate interest in aligning with Air Canada has clearly been the easy cash infusion it will bring. But for the Canadian airline, which lost \$363 million last year, its \$85 million equity investment must provide a payback. Air Canada's long-term strategy is to meld its services with Continental's and others to form a worldwide system of alliances. Ferguson says he wants to ally with an Asian carrier as well as anybody to our South."

But the two can begin together right away. On May 3, Air Canada is scheduled to start two flights daily into Continental's Houston hub, from which Continental can connect passengers to 21 cities in Mexico and Central America and 25 cities in the southwestern U.S. Air estimates that revenues from co-

ordinating flights will generate \$400 million annually by 1994 for the two carriers combined. Ferguson says the two could even seek antitrust immunity one day if Canada and the U.S. can ever come together on an open-skies treaty.

Of course, airline synergies have tended to look better on the drawing board than in life. KLM Royal Dutch Airlines, for example, which put \$400 million into Northwest Airlines Inc. in 1989, took three years to begin coordinating sched-

ules with Northwest and to date has shown only losses for its investment. But Ferguson seems focused as much on the power of new money as he is on anything else. "This is really the first time, to my knowledge, that Continental has had the resources to go about trying to produce a quality company." Now all he has to do is make it happen.

By Wendy Zellner in Dallas, with William Symonds in Toronto and Andrea Rothman in New York

CAN THIS ODD TRIO LEARN TO LIVE TOGETHER?

When word got out last June that Air Canada would make a play for Continental Airlines Inc., many industry executives scoffed. After all, Air Canada CEO Hollis Harris was ousted from Continental just a year before. Many believed a key figure behind his dismissal was Robert Ferguson III, who replaced Harris. The plot thickened when observers learned that David Bonderman, the Texas investor whose Air Partners LP emerged as Air Canada's bidding partner, was a pal of Ferguson's. In the early '80s, Ferguson was treasurer at Braniff International Corp., and Bonderman was its outside counsel in bankruptcy court.

In this marriage of convenience, Continental gets a cash infusion, Air Canada extends its chances for survival, and Bonderman and his investors can make some money if the airline market turns up. The only question is whether this unlikely trio can form a lasting union.

Ferguson and Harris claim they have no differences. "Bob is very intelligent and astute and has done a good job" at Continental, says Harris. Fergu-

son calls their relationship "cordial" and says he had nothing to do with Harris' leaving Continental. But not so long ago, they clashed over the carrier's strategy. Harris wanted the airline to grow its way out of its problems. His reluctance to cut costs dismayed Ferguson and the board.

NO CLONE. Onetime banker Ferguson is known more for financial savvy than operational skills. After guiding Braniff through bankruptcy, he was recruited as Frank Lorenzo's chief mergers-and-acquisitions man. When Ferguson became CEO of Continental in 1991, critics expected him to be a Lorenzo clone, dumping assets and alienating labor. Although he did slash 1,500 jobs and cut wages 10%, Ferguson backed the airline's quality efforts and steered it through last summer's fare war.

People close to the airline say Ferguson seems securely in the pilot's seat. They expect Air Partners to ensure that Harris doesn't meddle in Continental's management. Given Air Canada's pressing problems at home, that's not likely. For now, at least, it seems the honeymoon just might last.

By Wendy Zellner in Dallas



THE KEYBOARD REPAIRMAN LEADING KEY TRONIC

Turnaround expert Stanley Hiller has the company clicking again



million, compared with a loss of \$7.4 million a year ago (chart). Revenues in the current year could climb by 6%, to \$132 million. Even foreign competitors are taking note of Key Tronic's rebound. "We've started to see them aggressively pursuing many of our major accounts," says David Snyder, keyboard sales manager for NMB Technologies Inc., a subsidiary of Japan's Minebea Co.

Key Tronic's turnaround can be credited to Hiller. Despite his lack of high-tech experience, he does know about fixing

sick companies. Hiller, who heads his own management consulting firm, started in 1971 with Texas oil-field-equipment maker Reed Tool Co., now part of Baker Hughes Inc. He went on to repair the moving company Bekins Co. and air-conditioner maker York International Corp. All were money-losers, and Hiller successfully turned them around by cutting costs and improving products. "Any company in any field, if it gets back to basics, can be successful," says Hiller.

It was because of his record that Hiller was hired in March, 1992, by Key Tronic's board, which included founder and former Chief Executive Lewis G. Zirkle. Under the terms of his contract, Hiller could receive stock options currently valued at roughly \$17 million. Since Hiller's arrival, Key Tronic's stock has nearly tripled, to about 10.

Hiller was quick to apply his philosophy of stick-to-your-knitting at Key Tronic. He also sought outside advice. One of his first steps was to assemble a high-

powered board to advise him on everything from sales to research and development. Members include former Microsoft Corp. President Michael R. Hall and former Memorex Corp. CEO George W. Spangle.

Drawing on their advice, Hiller revamped up Key Tronic's sluggish production line. In the current fiscal year, Hiller intends to boost R&D spending by 2% to \$6.8 million. To help ensure that the company's final products have will appeal to buyers, he set up a system of informal consultations with such key customers: Compaq, Reuters, Hewlett-Packard, American Telephone & Telegraph. In each case, Hiller tried to outflank his rivals by establishing closer ties to customers, while trying to determine their future needs. He also convinced some customers to invest in the joint development of new keyboards.

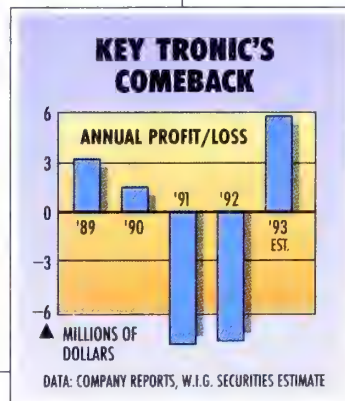
'LIKE A WAR.' The results have been impressive. In the past year, Key Tronic has introduced 10 new products. Hiller's proudest achievement by far is the Kermit. By dedicating a full-time team of engineers to design a low-cost quality keyboard, Hiller cut the development time from 18 to 8 months. The Kermit uses only 17 parts, vs. the usual 150. revamped, heavily automated production line in Spokane can churn out 2,000 Kermits every 24 hours—with only 10 workers. Other keyboards need 40 workers. "If you design the labor cost into a product, you can build it more competitively in the U.S.," says Hiller.

Hiller says his engineers are now working on a new generation of input devices that use pens or voice recognition. He also has beefed up Key Tronic's marketing efforts in hopes of challenging competitors such as NMB and Honeywell Inc.—and IBM's sole supplier, Lexmark. "It's like a war," Hiller says. "The enemy has the hill, and you've got to take it."

The problem is, the enemy is standing still. Personal-computer prices are dropping steadily, and the keyboard industry is working overtime to keep pace. Hiller must keep Key Tronic focused on innovation while he maintains firm hold on costs. Of course, he is

the only chief executive facing that challenge. The computer industry's other well-known turnaround specialists, IBM CEO Louis V. Gerstner Jr., is seeking solutions to a similar dilemma. The big difference between the two: Key Tronic's boss has already found some.

By Dori Jones Yaeger
in Spokane, Wash.

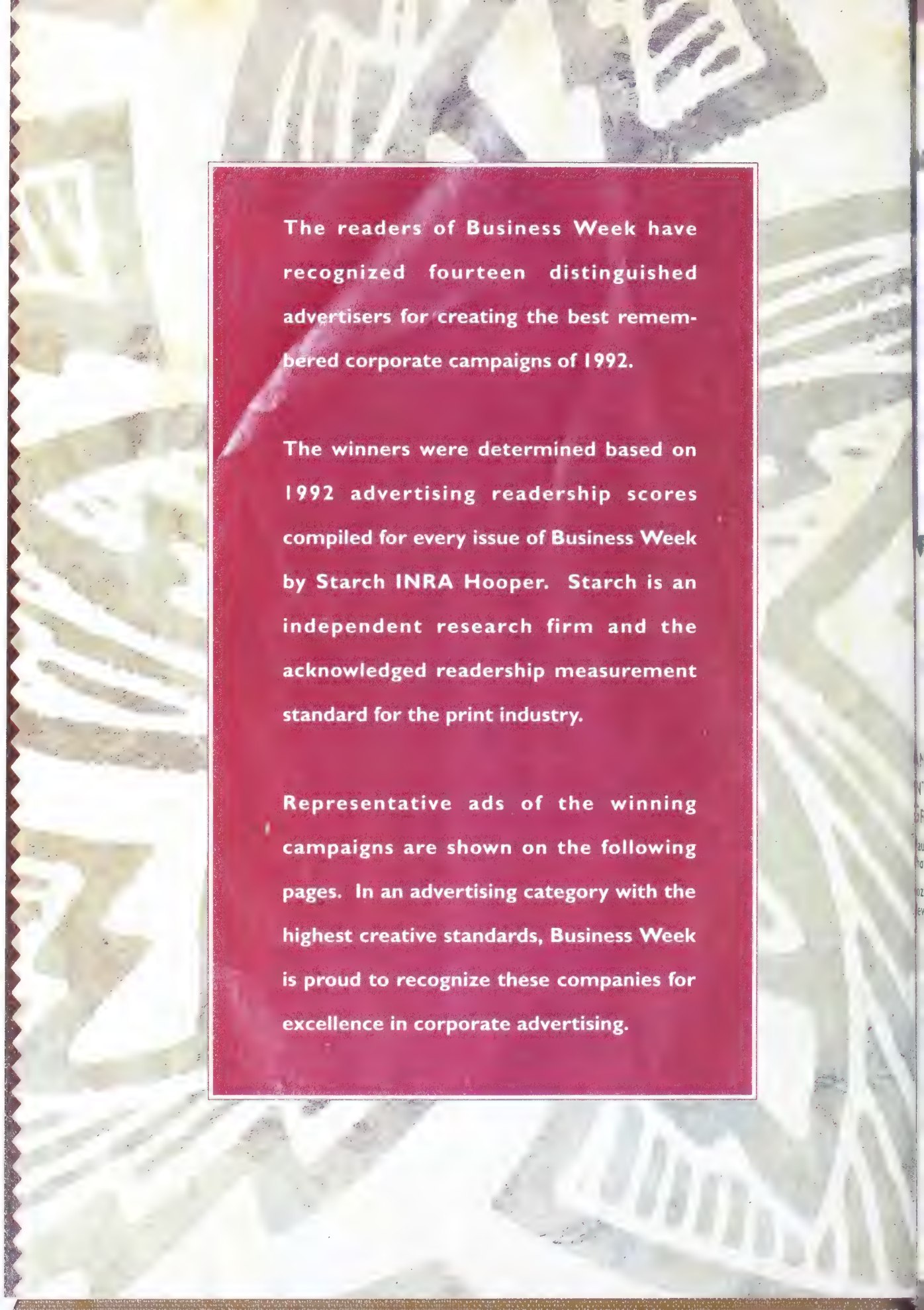


Just a few years ago, Key Tronic Corp. seemed ready to fold its hand. Once the biggest and best-known maker of computer keyboards in the U.S., the Spokane (Wash.) company was struggling to survive the onslaught of cheaper Asian imports. But last year the company's board had an inspiration: It hired veteran turnaround artist Stanley Hiller Jr. to lead Key Tronic back from the brink.

The 69-year-old Hiller had no experience running a high-tech company. But that hasn't seemed to hurt him: Key Tronic has slashed costs, overhauled its stale product line, and automated production in a brutal battle against the import invasion. And Key Tronic is hitting the competition where it hurts: with a low-cost keyboard that is shaking up the industry and is winning market share. Nicknamed Kermit by employees, Key Tronic's newest keyboard wholesales for as low as \$14, compared with the industry average of \$18.

Even better, Key Tronic moved into the black in the second half of last year. For the fiscal year ending this June, analyst Thomas Friedberg of W.I.G. Securities of San Francisco estimates that the company will post a profit of \$5.7

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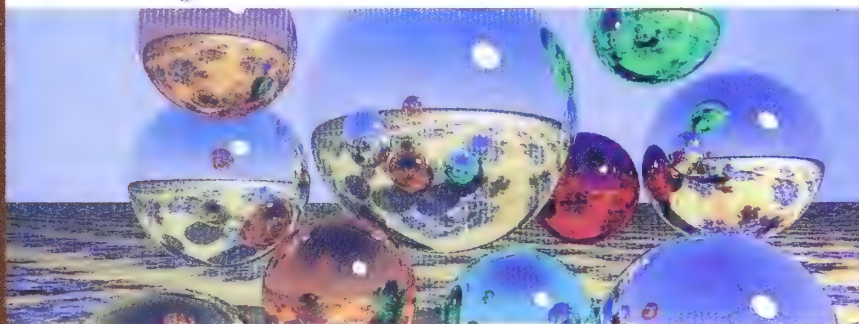
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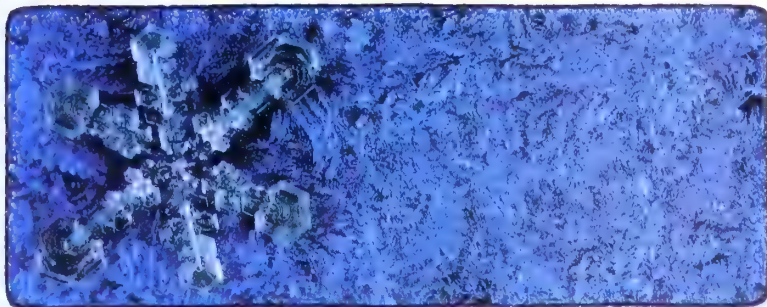


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48. *Journal of the American Medical Association*, 2000, 283: 2533-2538.

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INFLATION DOWN FOR THE COUNT?

Price-cutting fever could send the rate much lower than expected

Five, four, three, two, one...zero? Not too long ago, a 5% inflation rate seemed set in stone. When Americans bargained for pay raises or struggled over home prices, they simply assumed that inflation would continue at a fast clip. That changed with the recession of 1990-91, which pushed over-price increases down to a thing 3%.

Now, to practically everyone's surprise, inflation is about to shift once again. With high unemployment, slowing medical inflation, and price-cutting in consumer products, 3% is no longer a floor. "I'm looking for 2% inflation by the end of the year," says Edward E. Yardeni, chief economist at C.J. Lawrence, a New York investment bank.

And because of measurement problems, even that 2%, low as it sounds, may overstate the actual inflation rate by a wide margin. The government's consumer price index does not include home mortgage rates or home-computer prices—both of which have plummeted the past year. And the CPI doesn't account for the growing sales of discount chains. This hidden disinflation means that for the first time in recent memory, the U.S. may be close to zero inflation.

To be sure, there are skeptics who signs that the inflation rate will soon

be bouncing back up. They point to the recent 8% rise in the price of gold, often considered to be a harbinger of inflation. And they worry that as the economy recovers, companies will try to make up for lost time and boost prices. Clinton's tax hikes, if passed, could also eventually give inflation a big jolt.

WHY THE OFFICIAL RATE IS TOO HIGH

HOUSING The CPI leaves out the impact of plunging mortgage rates on home ownership costs. Instead of rising by 3%, as the government reported, these costs in fact fell by 10%.

DISCOUNTING Despite the growth of low-price warehouse stores, the CPI gives too much weight to full-price retailers. This means inflation for food, apparel, and other consumer items is overstated.

HOME COMPUTERS The CPI is based on spending patterns from 1982-84, when home computers were still scarce. So the CPI doesn't pick up the consumer savings from falling computer prices.

DATA: BUSINESS WEEK

But what the skeptics miss is that the forces of disinflation have been unleashed throughout the industrial world as global competition takes hold. France and Britain are registering inflation at about 2%. So is Canada. And in Japan, the rate is a stunning 1.2%.

As international competition heats up,

it will be hard for U.S. companies to raise either wages or prices, despite economic recovery. Prices for industrial commodities, such as metals and lumber, are falling again after a brief rebound earlier this year. And productivity-seeking companies continue to cut costs wherever possible, keeping the lid on inflation. For example, General Electric Co.'s appliance unit is demanding annual 10% cost cuts of its suppliers.

And low-inflation religion finally has spread to sectors of the economy that seemed insulated from competition for years. Take medical-care inflation, which hit a peak of 9.6% in 1990, but now is running at an annual rate of less than 6%—and falling fast. "We've had some pretty strong pressures on prices for 18 months, and every quarter there's a

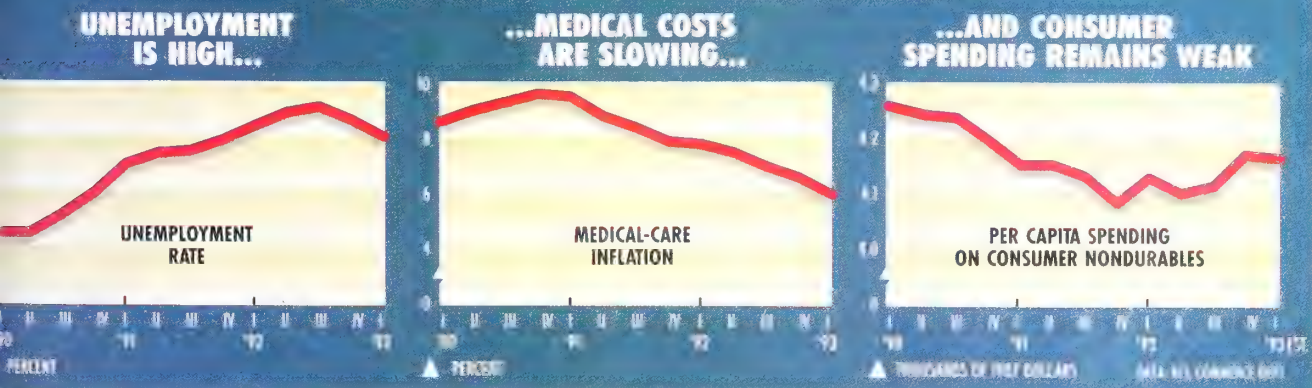
new reason for it," says Robert J. Gallagher, chief financial officer at Acuson Corp., a California maker of big-ticket ultrasound equipment. "Hospital administrators are taking more time and care with buying decisions." With the new focus on cost containment, medical inflation could drop as low as 3% by the end of 1994, says Yardeni. That could chop a half-point from the overall inflation rate, and perhaps more.

SMOKE OUT. Persistent inflation pressures are also abating in the consumer-goods sector of the economy, as Americans tighten up on their wallets. Since the end of 1989, per capita consumption of consumer nondurables, such as food and tobacco, is down 1.7%,

even while spending on consumer durables and services rose 3%. That has forced consumer-goods companies to hold down, or even roll back, price increases.

The new price wars in the cigarette industry could by themselves help drive inflation down to new lows. Prices of tobacco products have been rising at a

WHAT'S DRIVING INFLATION LOWER



10% annual clip since 1988. But recently R. J. Reynolds Tobacco Co. announced plans to slash the prices of its Winston and Camel brands, following the lead of rival Philip Morris Cos. Many analysts now expect cigarette prices to actually drop by 10% over the next year. Since cigarettes make up almost 2% of the CPI—a larger share than dairy products or men's clothing—that could slice 0.4 percentage points off inflation over the next year.

Food prices should be flat, too, after chalking up several years of 5% increases at the end of the 1980s. "If there's any inflation in the food-at-home industry, I can't see it," says John McMillin, an analyst at Prudential Securities Corp. "The competition is very intense." Indeed, makers of brand-name food products are being forced to cut prices rather than lose market share.

CHAIN LINKS. All told, these factors could pull inflation down by a percentage point or more over the next year. But there's more good news on the price front that doesn't show up in the official CPI numbers—especially in the cost of home ownership, which accounts for 20% of the CPI. Since 1983, the Bureau of Labor Statistics has calculated the cost of home ownership by looking at the cost of renting comparable houses. In normal times, that works fine. But when interest rates plunge, mortgage payments fall much faster than rents do. So while the BLS figured home-ownership costs to rise by 3% last year, the actual amount paid by most homeowners dropped by 10% or so, cutting as much as 2 percentage points from the overall inflation rate.

But there's another source of hidden disinflation. The market basket of goods in the CPI is based on 10-year-old buying patterns. That means, for example, the CPI does not completely reflect the soaring popularity of discount chains that offer lower-than-retail prices for food and other items. According to the BLS, this could cut 0.2 to 0.3 percentage points from food inflation, and perhaps 0.1 points from the overall inflation rate.

And home computers, one of the fastest-growing spending categories, are almost completely ignored by the CPI. That means the sharp decline in computer prices barely is reflected in the government's inflation numbers. And this distortion in the inflation rate will only get bigger as home computers and other new types of home electronics become increasingly popular.

Despite the strong case for continued disinflation, the conventional outlook calls for a 3% inflation rate over the next year. But it will soon become apparent that such forecasts are based more on past fears than on present realities.

By Michael J. Mandel in New York, with bureau reports

People

ENTREPRENEURS

CIRCUS CIRCUS' RINGMASTER —THE ONE AND ONLY

Casino legend Bill Bennett keeps forcing out his heirs apparent

In the neon and green-felt world of Las Vegas, few have accomplished as much—or done it as quietly—as William G. Bennett, chairman of Circus Circus Enterprises Inc. Over the past two decades, he has transformed Circus Circus from a dilapidated, money-losing casino into an \$843-million-a-year gaming giant with seven properties and a golden profit margin. In a business filled with outsize egos, Bennett shuns publicity. But in Vegas, it's common knowledge that nobody runs a tighter ship.

Maybe too tight. Since mid-February, the taciturn, 68-year-old executive has found himself deflecting charges that he is scaring off key executives because he won't relinquish control of his company. The effect has been a purge of what was long considered the gaming industry's strongest management team. Last November, he eliminated the position of top marketing executive Melvin L. Larson. And on Feb. 18, President Glenn W. Schaeffer resigned after a clash with Bennett—the second heir apparent to leave in as many years. In late March, Chief Operating Officer James W. Muir stepped down as well.

At a time when Circus is expanding ambitiously, the upheaval has sent a chill through the investment community. Long a Wall Street darling, Circus stock has been pummeled since Schaeffer resigned (chart). It didn't help that Bennett charged Schaeffer with plotting a palace coup, only to retract the charge days later. "You have to wonder why that much management leaves at the same time," frets Dennis Forst, an analyst with Hancock Institutional Equity Services. Says a rival casino executive: "It looks for all the world like a founder who doesn't know when it's time to quit."

CAMELOT. Bennett insists he has been itching to step down for a long time. His chosen heirs, unfortunately, just keep disappearing

ing him. Bennett says he had spent years training Schaeffer and his predecessor, Richard P. Banis, to take over. "I thought they were capable of running the company the way I wanted it run," he says. Instead, Bennett claims, neither watched costs as closely as he does—a key element of the "value" strategy Circus uses to draw moderate-income customers. Moreover, Bennett claims Banis tried to push him out of the



STOCK PRICE

NOV. 25 Marketing
chief Mel Larson takes
early retirement

**CIRCUS CIRCUS STOCK
TAKES A TUMBLE**

NOV. 2, '92

DATA: BRIDGE INFORMATION SYSTEMS INC., BUSINESS WEEK

decision-making process. And Schaeffer, he charges, demanded a big increase in stock options this year, only to stalk out when the board refused.

"That's news to me," says Muir, who was on the board when Schaeffer resigned. Both Schaeffer and Banis declined to comment. Banis says he just wants to put the past behind him. Schaeffer is restricted by a confidentiality agreement he signed in order to keep some of his stock options.

TRAPEZE ACTS. In any event, it's clear Bennett can do what he wants. "This is very definitely Bill Bennett's company," says Muir. "He built it, and he intends to keep running it." Although Bennett's stake has declined to 7% from the 39% he owned when Circus Circus went public in 1983, he still is very much in control. Three of eight board members are insiders, and the rest are close Bennett associates. Moreover, the company has indulged Bennett's interests before. For three years, Circus ran a money-losing division that made radio-controlled mod-

el airplanes, a favorite hobby of the chairman. In 1989, Bennett bought the unit for \$11.5 million of his Circus stock.

For all the uproar, Circus Circus' outlook is rosy. It rolled up a record \$117 million in net income for the year ended Jan. 31, on revenues of \$843 million, making it the nation's most profitable gaming company. Management has done a fine job of keeping 11,000 rooms in Las Vegas, Reno, and Laughlin occupied. And the new Excalibur casino, a castlelike building with a King Arthur theme, has been going strong since opening in 1990.

What worries investors is that Circus Circus plans to open its most expensive project to date in October: a \$360 million hotel-casino called the Luxor, which will pack 2,521 rooms into a black-glass pyramid hovering above the Las Vegas strip. Already, a ventilation-system overhaul helped push the project about 10% over its original budget. And two rival megacasinos are coming on stream about the same time. With thousands of new rooms vying for customers, Las Vegas will be even more competitive. Can Bennett's thinned-out management team compete?

Bennett—one of the industry's visionaries—has rarely stumbled. A Phoenix native who ran a chain of Arizona furniture stores in the 1950s, Bennett and his partner William N. Pennington bought into a dingy, 365-room hotel casino called Circus Circus in 1974. Bennett was the first to recognize that the gaming market consisted of more than high rollers. With good, clean entertainment and cheap rooms, he figured, families and moderate-income gamblers would come in droves. Circus had the entertainment, including trapeze acts and a baby elephant trained to pull the handle on slot machines. But to cut costs, the duo had to add management controls to clean up operations.

ON CALL. As the company expanded, Bennett became known as the toughest operator in the business. He's notoriously tightfisted—his bare-bones offices always have lacked the glitz of other casino companies'—and he is obsessed with detail. Each day, Bennett reviews a computer printout that

tallies costs down to how much is spent to stock the newsstand. He regularly walks the floor of his casinos and even eats at the cafeteria so he can time the service. He gives his managers space to operate but demands that they work extra-long hours.

Until recently, Bennett had been making noises about retiring with the \$500 million he has amassed through his Circus Circus holdings. With his wife, Sam, he paid \$11 million in 1989 for a seven-acre estate in La Jolla, Calif., where he keeps two huge speedboats. The former Navy pilot also has three aircraft, including a biplane, which he has been known to fly in acrobatic loops.

LIKE A SON. But Bennett was never quite able to let go. Two years ago, he announced plans to retire by 1992 and anointed Banis as his successor. Five months later, Banis resigned after personality conflicts with Bennett. "He was going around hiding things from me, talking behind my back," Bennett says now. "Maybe he thought he knew how to run a casino better than me."

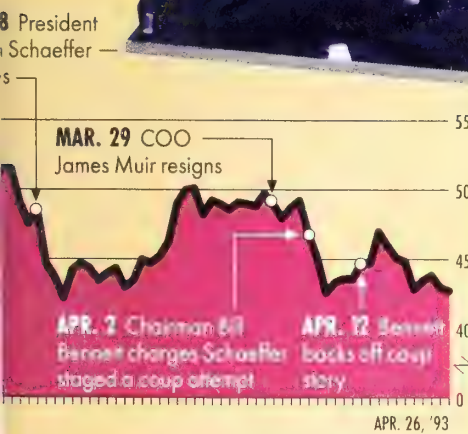
Glenn Schaeffer's departure was more high-pitched. Bennett had hired Schaeffer, a onetime public-relations executive and former stockbroker, in 1984. While Banis was a strong operator, Schaeffer's forte was finance. Outgoing where Bennett was press-shy, Schaeffer became an articulate Circus spokesman on Wall Street. When Banis left, few doubted Schaeffer would eventually take over. "He was like Bennett's son," says hotel consultant Saul F. Leonard.

But the two men began bickering last year, after Circus joined with Hilton Hotels Corp. and Caesars World Inc. to propose a \$2 billion Chicago casino complex. Bennett wanted Schaeffer to spend his time learning casino operations, not dealmaking in the Windy City. As the project bogged down—and Circus' costs neared \$2 million—Bennett lost patience. He says Schaeffer, who was renegotiating his \$800,000-a-year contract, demanded more stock options than the 700,000 he already had. Sources close to Schaeffer say all he wanted was to be named successor. Bennett refused.

To replace Schaeffer, Bennett tapped Clyde Turner, 55, a financial veteran of Mirage Resorts Inc. "I've wanted that rascal for years," says Bennett. "I can see him running this company for me." When? Bennett isn't saying, exactly: "I don't imagine I'll be here in seven or eight years. I'd rather be on my boat." Turner isn't holding his breath. "I'm sure he will leave sometime in the future," Turner says. "But he's running the company now just like he's always run it." All the same, Wall Street would prefer that Bennett spend more time training successors than shooing them away.

By Ronald Grover in Los Angeles

Bennett insists
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MEDITATION, THE NEW BALM FOR CORPORATE STRESS



An odd thing happens almost every day at consulting firm Symmetrix in Lexington, Mass. Some of its 125 workers shut their office doors, hold their calls, and spend 20 minutes sitting quietly, meditating.

They began doing this after going through a four-week program in which an instructor from Harvard's Mind/Body Medical Institute taught

them a variety of techniques for relaxation, including meditation and guided visual imagery. George Bennett, Symmetrix's CEO, says he signed up his company for the \$3,000 program because employees complained of being too stressed out. "There's no question employees who do this are more relaxed, and some are even more productive," he says. One diabetic

worker noticed a big health benefit: His need for insulin injections dropped 15% after using the relaxation techniques for three weeks.

Bennett is not practicing some New Age religion or oddball management strategy. His approach to easing job stress is based on the modern health-care principles of mind/body medicine. Meditation, one of the field's key

methods, is often used in combination with other therapies—such as exercise, nutrition, and support groups—to deal with a host of problems, including stress, heart disease, insomnia, and anger.

BEYOND THE FRINGE? Companies such as Marri Polaroid, and Boston 6, an investment firm, have all offered mind/body training to their employees. Adolph Coors Co. is one of the most extensive "wellness" programs anywhere, with a separate building and a full-time staff. Among its many services, the program combines meditation, nutrition, and exercise to help treat any ailment. "The best way to control health-care costs is to prevent costs from occurring in the first place," says Chairman William Coors, who himself meditates regularly.

The field is still considered fringe medicine in some quarters—notably the insurance industry. But mind/body techniques are making inroads in the business world based largely on new credibility gained from recent scientific studies that suggest strong links between mental attitudes and physical health.

At Stanford University, psychiatrist has used meditation, hypnosis, and group therapy for women with advanced breast cancer—helping to prolong their lives by an average of 18 months, compared with women who did not receive the treatment. Another report, published in the journal *Lancet* by the Preventive Medicine Research Institute in Sausalito, Cal.

ved that yoga and medita-
used in conjunction with
w-fat diet, can reverse
disease. Scores of other
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—still not well under-
d—between thought pat-
s and the immune system.
US WORD. Specialists say
one can use meditation to
with workday and peral
stress, whether their
pany has a formal pro-
n or not. A key is getting
body and the mind to re-
completely for a few un-
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s, Dr. Herbert Benson de-
ped the “relaxation re-
se,” which can be elicited
ny time with two types
mental focusing—repetition
a single thought or
se and disregarding other
ghts.

o assist in the process,
should sit quietly, in a
fortable position, with
eyes closed, relaxing
muscles and breathing
ly. If you’ve never medi-
before, you may need
tice. A problem for be-
ers is that various
ghts may break their con-
centration. If that happens,
t get anxious; just shrug
f and gently return to the
etition of the focus word.
lly, you should meditate

JOB STRESS? SHUT THE DOOR AND...

- ▶ Pick a calming focus word, phrase, image, or prayer. (Example: ocean)
- ▶ Sit quietly in a comfortable position, such as up straight with your hands in your lap.
- ▶ Close your eyes or focus on a single object.
- ▶ Relax your muscles.
- ▶ Breathe slowly and naturally, repeating your focus word.
- ▶ Assume a passive attitude. Do not worry about how well you are doing. When other thoughts come to mind, simply say to yourself, “Oh well,” and gently return to the repetition.
- ▶ Continue the meditation session for 10 to 20 minutes.
- ▶ Practice the technique once or twice daily.

DATA: THE WELLNESS BOOK, BY DR. HERBERT BENSON

once or twice a day for at least 10 minutes a session. If you want to do it at work, it helps if you have a private office with a door you can close, but you can also try it in a quiet corner of the cafeteria or outside on a bench during lunchtime.

If you own a business and want to promote the benefits of meditation and other relaxation techniques to your workers—or if you just want to learn more for yourself—you can turn to several sources. Dr. Benson’s *Mind/Body Medical Institute* (617 632-9525) at Boston’s Deacon-

ess Hospital gives guidance and holds training sessions, starting at about \$300 for individuals and running into the thousands for customized corporate programs.

STATE OF THE ART. Another resource is the Stress Reduction Clinic (508 856-1616) at the University of Massachusetts Medical Center, which conducts an eight-week program for \$365 per person. This clinic specializes in something called “mindfulness meditation,” which is based on a Buddhist approach. The technique teaches people to react calmly to their thoughts,

whether pleasant or not.

Some insurance companies offer stress-reduction seminars, meditation classes, or other mind/body approaches to preventive medicine. And many health clubs and private practitioners teach meditation and yoga, as do self-help books and tapes.

A good source of practical information on the topic is a new book called *Mind/Body Medicine* (Consumer Reports Books, \$24.95). Articles from leading scientists describe the state of the art in this field, and there is a long list of resources for people with specific concerns. *Healing and the Mind*, by Bill Moyers (Doubleday, \$25) offers an engaging narrative based on a recent PBS series. The book describes techniques used in major U.S. hospitals and in China.

People who have the most success with meditation make a point of incorporating it into their daily routines, whether at home or on the job. That way, it becomes second nature. So if your boss blindsides you at 5 p.m. with a 20-page report that’s due tomorrow, you have a better chance of staying calm and keeping your blood pressure down. *Geoffrey Smith*

THE MANTRA IN THE GREY FLANNEL SUIT

m sitting in an antique chair in State Street Bank chairman Marshall Carter’s lounge room on a Sunday afternoon. My back is straight, my eyes are closed, and my hands are folded in my lap. My mind is focused on a single word, “relax,” which I repeat to myself over and over.

Around me are a dozen pairs of large Boston companies and their spouses, who are sitting on couches, chairs, and even on the floor. Their eyes are closed, their hands are folded, and they are breathing slowly and rhythmically. One person is stand-

ing: Dr. Alice Domar, an assistant to Dr. Herbert Benson, Harvard medical school’s top mind/body specialist. She is leading us in a 10-minute exercise to elicit what Benson—who is also present—calls the “relaxation response.”

RELAXATION BREAK. When the exercise is over, there is a consensus among the group: It works. Carter says that after two tours as a marine in Vietnam, he doesn’t easily get stressed by mere banking, but the exercise definitely made him feel more relaxed.

David Perini, chairman of Perini Construction Co., one of New England’s largest builders, has been meditating for years but didn’t know it could be used as a tool for managers. He says that he will consider hiring Benson to work with his senior staff at an upcoming retreat. On the other hand, Nader



Darehshori, chairman of publishing house Houghton Mifflin Co., remarks that he isn’t quite prepared to have his entire staff close their doors for 20 minutes a day to meditate, but he’s going to recommend Benson’s program for some of his senior executives who work 14-hour days. “They could definitely use something like this,” he says.

Benson says that chief executives don’t always understand his message. “Many think it’s part of their job to cause stress, not to relieve it,” he observes. But his sales pitch goes over pretty well at this Sunday afternoon gathering: Three companies—and several CEOs’ spouses—sign up with Benson. *G. S.*

Autos

A COUPLE OF HUNKS ON THE ROAD

When car shopping starts to sound as dull as a fat-free diet, it may be time to consider some muscle-bound excitement. General Motors is weighing in with new versions of a familiar pair of muscle cars: the Chevrolet Camaro Z28 and the Pontiac Firebird Formula. GM hopes these racy entries will win over buyers before Ford introduces its overhauled Mustang this winter.

Camaro and Firebird look and act like they're built for speed. They're big, with huge front seats and deep trunk wells. They're noisy: The Corvette's modified 5.7-liter V8 engine and exhaust growl loudly. And they look mean, thanks to a 68-degree angled

windshield and a wide body resting on 16-inch aluminum-rimmed performance tires.

With all their power comes the traditional, albeit softened, spine-jarring ride and the slippery handling in bad weather common to rear-wheel-drive cars. Both cars are in desperate need of traction control, and neither will get it until 1994. And with no convertibles until next year, buyers might justifiably decide to wait.

LESS FANCY. Sophisticates accustomed to the rival Dodge Stealth and Nissan 300ZX may be disappointed by GM's lack of interior charm. The various control knobs don't compare to the fancy, digital gadgets on the imports. Amenities such as a push-button gas tank opener are absent.

Both cars do sport a better front suspension and a dent-resistant body. The cars



**FIREBIRD:
STILL A SPINE-
JARRING RIDE**

corner remarkably well; zipping and zagging on the freeway is fun in these beasts. GM has improved chassis stiffness 20% to eliminate customary shakes and rattles. But it stuck with a rear-axle suspension that lacks the

sureness of independent suspensions. The speedsters could take some cues from Ford's \$15,175 front-wheel-drive Probe GT, which is way ahead in ride and handling.

The Z28 starts at \$16,799 and the Formula at \$17,995. Standard features include six-speed manual transmission, dual airbags, air conditioning, four-wheel antilock brakes, and AM/FM cassette radio. The base models have V6 engines.

Buyers will find one aesthetic difference between the Camaro and the Firebird. For example, the Firebird has pop-up headlights, a pair of snout, a tapered middle, and a rear spoiler. These are American muscle cars through and through. When their engines rev up they seem to say, "Hasta vista baby." *Greg Bowe*

Newspaper publishing stocks have few friends on Wall Street. They have treaded water since the New Year, and most now trade below the prevailing price-earnings ratio—26—for the Standard and Poor's 400-index of industrial stocks. That's quite a comedown for the group, which usually trades at a 20% or better premium to the market's p-e. Are newspaper stocks dogs? Or are they that Wall Street grail—an "underappreciated stock."

Well, some contrarians are betting newspaper stocks will be winners in the months ahead. The theory is that advertising is at last on the upswing, abetted by a reviving economy. For the most part, the newspaper "story" has been ignored, or underplayed, by all but a few brokerage house analysts. "We've seen some convincing evidence that lineage has bottomed out and is turning up," says

Smart Money

ON WALL STREET, THE PRESS IS GETTING GOOD PRESS

Michael Hoover, an analyst at U.S. Trust, where portfolio managers are accumulating newspaper stocks.

STRONG SHOWING. Lucrative classified advertising began to bounce back in 1992. At Gannett, classifieds bottomed

a year ago and gained 6% in January, 10% in February, and 1.5% in March—a strong showing, Hoover points out. Display ads began to recover shortly thereafter. Analysts have been generally unmoved by the group's ad recovery and strong financial position. But some are coming around. "This industry has been through some really tough times, yet they've done a good job of cutting costs, reducing debt, and generating cash," says Robert Nelson, an analyst at Standard & Poor's.

Once ad lineage recovers, profits should surge because of newspapers' pricing power—a byproduct of their monopoly po-

sition in many areas. Most forecasters see big gains in '93 except at Knight-Ridder, where a recent acquisition has hurt earnings. Overall, says Cornelius Sewell, who follows newspaper stocks for Argus Research, profits should rise 15% in 1993—far better than 1992's 10% gain.

Sewell thinks share-price gains will be healthiest in the stocks that were hurt most in 1990 and 1991. His two favorites are Times Mirror, publisher of the *Los Angeles Times*, and Dow Jones, publisher of *The Wall Street Journal*, where ads are rebounding. Other safe bets are companies with strong franchises in a broad array of markets. Apart from Gannett, they include Knight-Ridder, Midwest newspaper chain L. Enterprises, and the Tribune Co., publisher of the *Chicago Tribune*. With rising newspaper prices a perennial problem, the Tribune Co.'s pay mills provide an additional benefit. *Gary We*

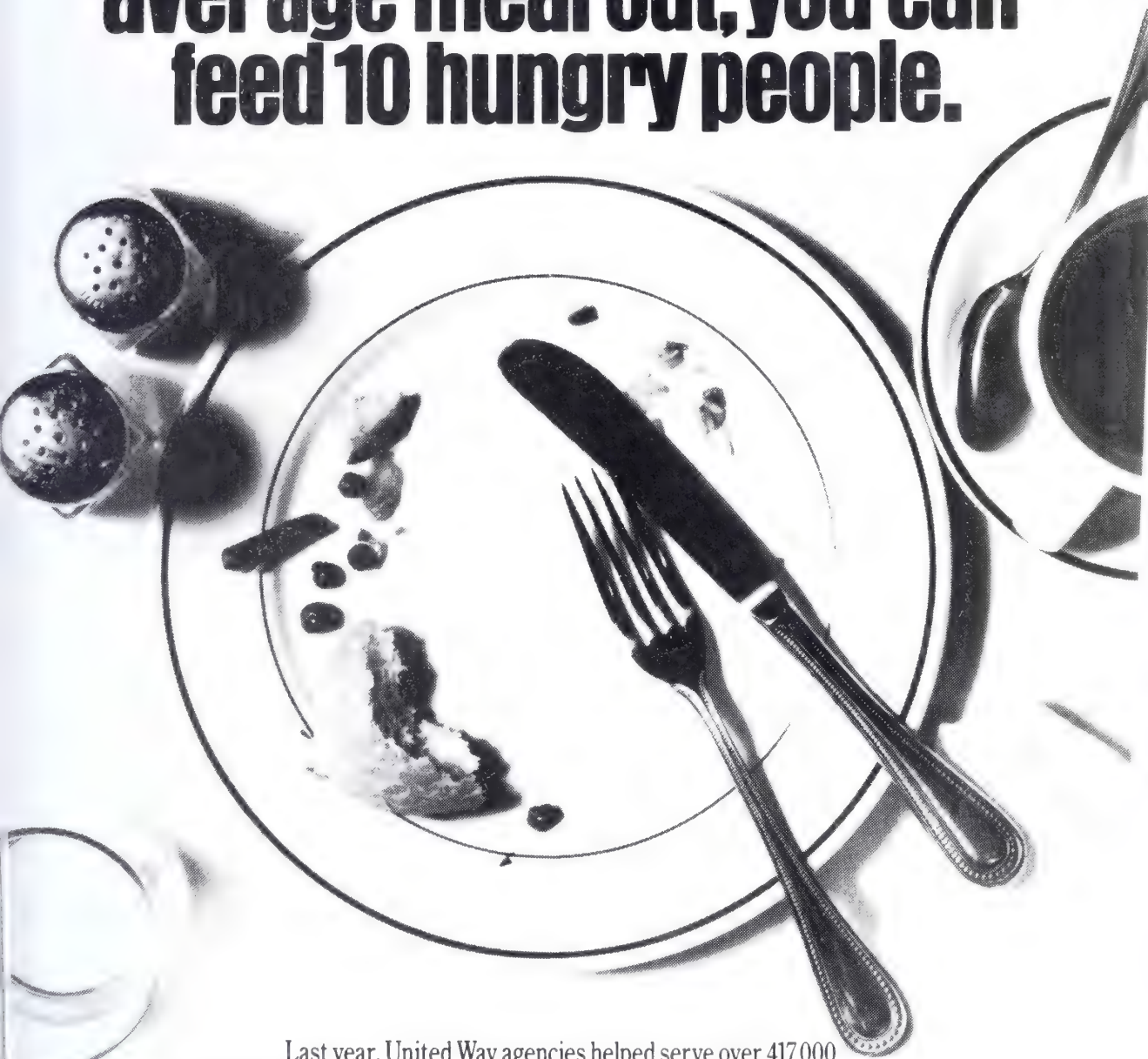
SOME PAPERS TO PONDER

Company	Price 4/26/93	Price/ Earnings*	Est. 1993 earnings growth
DOW JONES	31½	25	9.0%
GANNETT	52½	21	15.0
KNIGHT-RIDDER	57½	22	4.0
LEE ENTERPRISES	29½	17	20.1
TRIBUNE CO.	54½	27	44.2

* For past 12 months

DATA: BRIDGE INFORMATION SYSTEMS INC.
ZACKS INVESTMENT RESEARCH

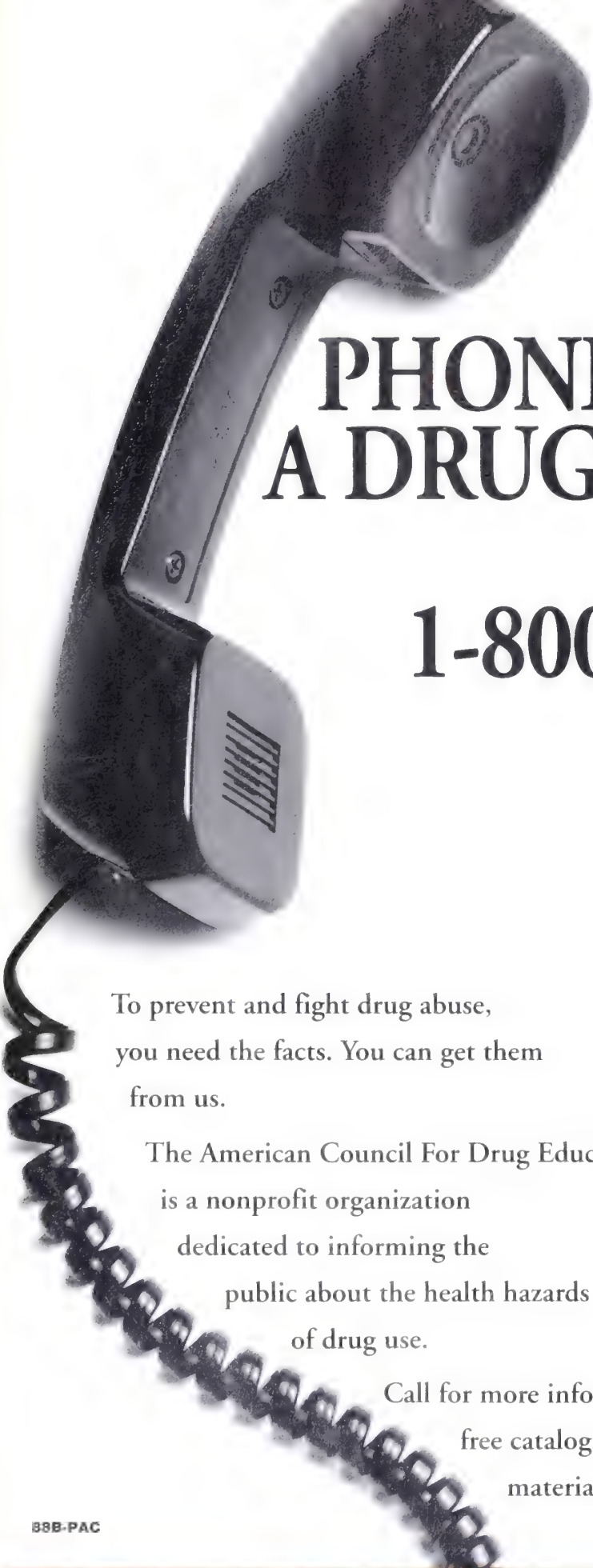
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o you've put off buying the kids a computer. But the neighbors have. And your kids' school move PCs into the classroom this fall. Face it, the moment of reckoning has come. If your children are using a brand at school and are familiar with the software and machine, you might want the same type of computer. Otherwise, there's scant difference between the capabilities of IBM-type PCs and the sleek Macintosh. Both now offer color displays and easy-to-use operating software and versions of many popular educational programs.

You should choose a PC with at least 4 megabytes of memory, 120 megabytes of disk storage, so you can add plenty of software, and a graphical user interface program, such as Microsoft Windows. For IBM-type machine, you need VGA graphics to run most software.

SOME COLOR. For reading, math, and writing programs, a PC with black & white display costs little as \$600 new. Basic machines also can handle an important but neglected computer skill: programming. For teaching a child to think through a problem, writing simple programs—say, to calculate the savings account interest needed to buy a new car—will be much more stimulating than drill-and-practice pages.

For most families, a color monitor is the smarter choice. Better, graphical high-school-level software now assumes color display. Color also is useful for painting programs

Computers

BUYING A COMPUTER FOR YOUR KID IS CHILD'S PLAY—ALMOST

that can teach first-graders computer basics.

A color PC will set you back \$1,000 to \$1,500 for an IBM type and about \$1,500 and up for a Macintosh. If price is an issue, second-hand PCs are available through newspaper ads or the Boston Computer Exchange (617 542-4414).

If the machine is for a

ciates, will "read" stories created on the word processing and painting program, helping kids learn spelling and pronunciation while inventing their own fairy tales.

THE WORLD OF PAW. Once you've got a machine, one of the first software purchases should be a touch-typing program. "Typing is the only way for kids to get words out of their heads as fast as they think them up," says Diana Nunnaley, director of the Maynard (Mass.)-based Chapter 1 Computer Center, which advises elementary schools. For third-graders and up, try Microtype, The Wonderful World of Paws (Southwestern; \$35). Mavis Beacon Teaches Typing (Software Toolworks; \$35)

is a good advanced trainer for ages 12 to adult.

One of the neatest packages for learning to use a computer is the Broderbund Software painting program called Kid Pics (about \$40). It's so simple that kids as young as 5 can be drawing in minutes. Teens appreciate the sophisticated graphics called "clip art." Beyond the artistry, Kid Pics is a great way to introduce pull-down windows and the mouse, at the heart of running advanced programs.

The next step is to encourage programming skills. The boom in packaged software has taken away the joy of

writing programs, says Russ Walter, author of the primer *The Secret Guide to Computers* (\$15; 617 666-2666).

Programming software teaches more about computers than mere game playing. One of the liveliest packages is LOGO, with separate \$100 versions available from Harvard Associates and Terrapin. It lets children write programs teaching an on-screen turtle to walk. For older kids, PCs include the easy-to-learn Basic programming language with most operating systems.

For a catalog of some 200 educational programs, many at 30% off retail list prices, call the Learning Advantage (800 524-2468). Its staff also will search for hard-to-find programs and provide insights into popular programs.

So get over your computerphobia and act. You might discover you have the next Bill Gates living just down the hall. *Gary McWilliams*

**MACHINES WITH
SOUND, COLOR,
AND MULTIMEDIA
DISPLAYS CAN TEACH
THE BASICS AND MORE**

high-schooler, consider a built-in CD-ROM player and sound capability. These multimedia PCs run encyclopedia, music appreciation (with music), and atlas programs. Tandy's Sensation is a great soup-to-nuts machine for \$2,000. If purchased separately, CD-ROM players, such as the Apple CD-300, cost about \$700, with several programs. On most PCs, sound usually costs extra. The Thunder Board from Media Vision is a steal at \$80.

Sound is even beginning to be required in software packages geared to elementary students. Kid Works 2 for the Mac, \$80 from Davidson Asso-

Worth Noting

■ **KIDS AND CASH.** Teach your children the value of a dollar with books, tapes, and games from The National Center for Financial Education's catalog. Send \$1 to NCFE Money-Book Store Catalog, P.O. Box 34070, San Diego, Calif. 92163.

■ **TOURIST TIPS.** For travel info from the source, the International Association of Convention & Visitor Bureaus offers a 12-page booklet listing local tourism offices, many with toll-free numbers. Send a self-addressed stamped envelope to IACVB Directory, P.O. Box 6690, Champaign, Ill. 61826.

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Index to Companies

This index gives the starting page for a story or feature with a significant reference to a company. Most subsidiaries are indexed under their own names. Companies listed only in tables are not included.

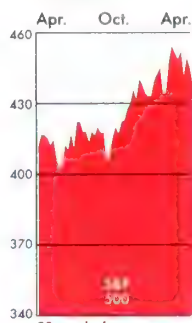
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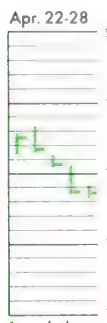
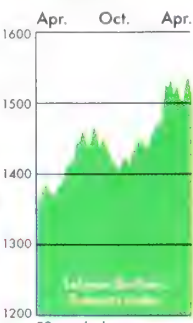
CURRENCY

Stocks weakened amid investment concerns that President Clinton will be unable to get his deficit-reduction program through Congress. Long bonds also devalued as rates moved up toward 6% level. But Clinton's difficulties are a blessing for the beaten drug stocks. News reports that the Administration's health reform package would not hit the industry hard sent the drug stock rocketing higher. Gold miners were strong, as the yellow metal rallied through \$350 an ounce.

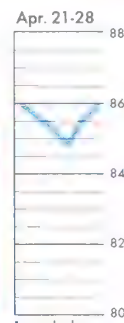
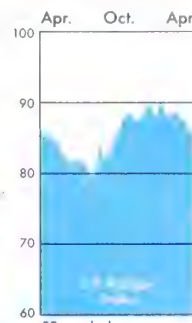
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS	Latest	% change Week	% change 52-week
INDUSTRIALS	3413.5	-0.8	2.4
TECH COMPANIES (S&P MidCap Index)	158.9	-1.2	12.8
SMALL COMPANIES (Russell 2000)	220.4	-1.3	13.9
COMPANIES (Russell 3000)	250.1	-1.4	8.0

HIGH STOCKS	Latest	% change (local currency) Week	% change 52-week
DOW JONES (FINANCIAL TIMES 100)	2797.3	-2.5	5.0
NIKKEI INDEX	20,454.6	3.4	16.7
TSE COMPOSITE	3710.2	1.3	10.5

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	2.98%	2.86%	3.80%
30-YEAR TREASURY BOND YIELD	6.92%	6.74%	8.07%
S&P 500 DIVIDEND YIELD	2.85%	2.80%	3.11%
S&P 500 PRICE/EARNINGS RATIO	22.0	23.1	25.1

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	438.1	437.3	Negative
Stocks above 26-week moving average	58.1%	62.9%	Negative
Speculative sentiment: Put/call ratio	0.46	0.47	Positive
Insider sentiment: Vickers sell/buy ratio	3.06	2.90	Negative

INDUSTRY GROUPS

4-WEEK LEADERS	% change 4-week	% change 52-week	Strongest stock in group	% change 4-week	% change 52-week	Price
MINING	15.2	41.1	ECHO BAY MINES	21.7	19.1	7
AIRLINES	9.7	11.0	UAL	17.3	19.8	146 1/2
DRUGS	9.1	-16.6	SCHERING-PLOUGH	16.2	29.2	68
DIVERSIFIED HEALTH CARE	7.5	-9.7	ABBOTT LABORATORIES	15.3	-8.9	28 1/4
PHARMACEUTICALS	6.1	-1.0	UNION CARBIDE	17.3	89.5	20 3/8

4-WEEK LAGGARDS	% change 4-week	% change 52-week	Weakest stock in group	% change 4-week	% change 52-week	Price
ALCOHOL	-21.9	-36.3	PHILIP MORRIS	-26.3	-39.5	45 1/8
RETAIL MERCHANDISE CHAINS	-14.3	7.2	WAL-MART STORES	-18.4	4.8	27 1/8
MANUFACTURED HOUSING	-14.0	0.0	FLEETWOOD ENTERPRISES	-16.9	-2.6	18 1/2
SEMI-TRAILER CONTAINERS	-12.8	-32.7	STONE CONTAINER	-44.0	-72.7	7 5/8
MINERALS	-11.3	-10.6	CYPRUS MINERALS	-20.0	7.0	25

MUTUAL FUNDS

LEADERS	Week total return	%	LAGGARDS	Four-week total return	%
AMERICAN STRATEGIC INVESTMENTS	23.3		STEADMAN OCEANOGRAPHIC TECHNOLOGY	-11.9	
JAPANESE SMALL COMPANY	15.2		STEADMAN INVESTMENT	-9.3	
UNITY STRATEGIES	14.6		STEADMAN AMERICAN INDUSTRY	-8.6	

	Week total return	%		52-week total return	%
AMERICAN STRATEGIC INVESTMENTS	65.5		PROGRESSIVE AGGRESSIVE GROWTH	-33.8	
AMERICAN STRATEGIC INVESTMENTS	45.8		FINANCIAL STRATEGIC ENVIRONMENTAL	-23.2	
AMERICAN STRATEGIC INVESTMENTS	40.7		FINANCIAL STRATEGIC HEALTH SCIENCES	-19.7	



RELATIVE PORTFOLIOS

Amounts sent the present of \$10,000 one year ago	Foreign stocks	Treasury bonds	U.S. stocks	Gold	Money market fund
with portfolio	\$12,599	\$12,281	\$10,948	\$10,412	\$10,249
percentages indicate day total returns	+1.93%	-1.61%	-1.59%	+3.38%	+0.05%

Figures on this page are as of market close Wednesday, Apr. 28, 1993, unless otherwise indicated. Groups include S&P 500 companies only; performance and share prices are as of market close.

Apr. 27. Mutual fund returns are as of Apr. 23. Relative portfolios are valued as of Apr. 27. A more detailed explanation of this page is available on request.

PRESIDENT CLINTON'S NEXT 100 DAYS

The second 100 days of the Clinton Administration has begun. Despite the early highs and recent lows of the first period, the defining moment is yet to come. The past weeks have not been encouraging. The financial markets, which rallied in the early weeks of the Administration, are signaling uncertainty. And the real economy appears to be weakening, as concerns rise about what comes next out of Washington.

For the Clinton Administration, it's time to regroup and refocus. The White House seems to have dissipated the good will and political capital built up with the unveiling of Clinton's long-term economic program. Initially, the President's courage in looking the deficit monster in the eye, after years of Washington denial, was refreshing. His promise to pare government spending, however modest, was welcomed. An inspired State of the Union address helped boost the President's poll standings and win congressional passage of his budget resolution in record time.

But now, Clinton's economic strategy is in serious trouble. The stunning Republican defeat of his stimulus package calls into question the President's leadership. Health-care reform, wrapped in secrecy, appears to be growing in size and expense. Early business supporters now cower under the drumbeat of new taxes, regulations, and mandates that emanate from every corner of the Administration, from Health & Human Services to the Labor Dept.

What's wrong? The President has lost his focus. In his first 100 days, Clinton unveiled proposals on gays in the military, abortion rights, the environment, national service, school and labor-law reforms. All the while, his health-care planners were cobbling together a sweeping package that could cost up to \$150 billion and require a broad new array of taxes.

In his first 100 days, Clinton also lost touch with voters. Some 43% of them put him in office largely out of economic anxiety. Corporate layoffs and the loss of health benefits were particular worries. The election provided no mandate for massive social engineering or huge tax increases—only one for spending cuts. That's why the Republicans had pub-

lic opinion behind them when they outmaneuvered Clinton.

So what should be done? Here are four suggestions to gain the momentum:

■ Reread the Reagan script. Ronald Reagan swept the right's social agenda off the calendar in his first year to focus on his tax cuts and defense buildup. Clinton has forgotten this lesson. He must reorder his priorities and limit legislative goals. The first year should concentrate on cutting the deficit and boosting long-term economic growth.

■ Scale back the health-reform package. As Senator Daniel P. Moynihan (D-N.Y.) recently told *BUSINESS WEEK*, the overriding principle of health-care reform should be: "First, do no harm." More than 180 million Americans have good health benefits. They don't want to lose them or the ability to choose their own doctors. Some 37 million others go uncovered, many because they are temporarily unemployed. The goal in reform is to get a grip on cost, extend coverage, and provide incentives for savings. That does not translate into a popular mandate to radically redo the health system. Because of its complexity, reform should be submitted to Congress well after the budget is buttoned up.

■ Watch out for special interests. Despite his talk about being a "New Democrat," the President has doled out plum jobs to interest-group partisans and, intentionally or not, appeared to embrace much of the left's cultural agenda. Unless he demonstrates his independence from these groups, his hold on moderates and independents could be fatally weakened.

■ Treat the market with respect. New Democrats supposedly believe that markets deliver services far more efficiently than government bureaucracies do. Clintonites have yet to show that they understand how regulatory mandates could undermine their goal of spurring investment.

Bill Clinton's encyclopedic interests and questing intelligence are leading him to try to do too much too soon. With timely adjustments and a return to basics, he still can deliver the shining promise of his Presidency. Supporters say he is incapable of sustained error. Now is the time for the President to prove them right.

A HEARTENING VOTE IN RUSSIA

For the third time in four years, the Russian people cast their ballots for democracy and free markets. On Apr. 25, they voted beleaguered President Boris Yeltsin a clear mandate, rebuffing an obstructionist Parliament and backing painful economic reforms.

In so doing, the Russians showed up Western observers who believe they still harbor a serflike need for authority. Instead, they rejected the racist appeals of xenophobic fascists and the promises of Communist holdovers in Parliament.

That isn't to say Russia is out of the woods. Yeltsin failed to get enough votes to call new elections for Parliament. So there's little chance Parliament will approve his new draft

constitution that provides for a strong, Western-style government. Yeltsin needs that constitution to push such key reform measures as private land ownership, factory privatization, and control of the money supply.

The West should be heartened by this vote. Western hopes for peace and prosperity in this decade rely on the nonviolent transformation of the former Soviet Union. Yeltsin is already helping out on the diplomatic front. Just two days after the Russian referendum, Yeltsin solidly backed Western steps to end Serbian carnage in Bosnia. It is in the interest of the West to keep up the momentum toward democracy and a market economy in Russia.

BusinessWeek

17, 1993

A MCGRAW-HILL PUBLICATION



CHINA



THE MAKING OF AN ECONOMIC GIANT

SPECIAL REPORT

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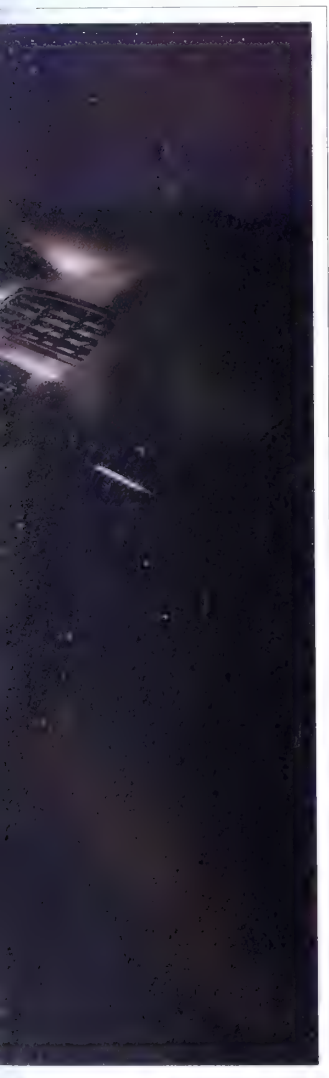
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Sound Travels At Over 700 Miles Per Hour
But We Find It Stops Rather
Quickly When Hit With Steel Asphalt.

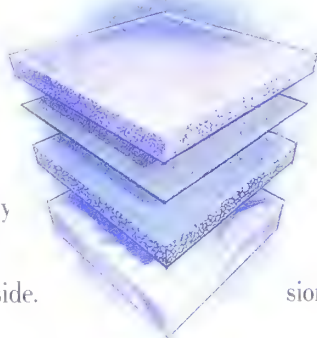


not that scientific, really. Sound
ves travel, depending on the
de, anywhere from 700 to 1,200
per hour. But they slow down
derably when hit with a hard



object. Makes sense, doesn't it?

That's why the Lexus ES 300
comes with layer upon layer of sound-
dampening materials built into the
inner panels of the
cabin – to help keep
outside sounds precisely
where they belong. Outside.



More specifically, we designed
a unique steel-asphalt-carbon-resin
sandwich that works to absorb sound
vibration. The type of vibration that
enjoys traveling extremely long dis-
tances just to interrupt an otherwise
peaceful drive. You know the type.

We also added large amounts of
sound-insulating materials in the roof,
center pillar and hood – as well as in
the dashboard and floor panels.

There are even in-
novative liquid-filled
bushings in the suspen-
sion system, and double door

seals to help keep the quiet cabin of
the ES 300 very, very quiet.

Of course, from where you're
sitting, this will undoubtedly sound
excessive. But from behind the wheel,
it will sound quite nice.





To us, they look very different.

No matter how similar they may appear, every child is unique. Each has different interests, different abilities and a different way of learning. With this kind of diversity in today's classrooms, it's essential that teachers have flexible, adaptable tools that allow children to learn at their own pace, in their own way.



Apple® Macintosh® personal computers work in a simple, intuitive fashion, so any student of any age can learn to use one quickly and easily. Macintosh also runs a vast library of interactive software that takes advantage of its unique sound and graphics capabilities — giving teachers exciting new ways to stimulate curiosity, encourage exploration and meet the individual needs of each student. At Apple, we're working with educators to prepare students for the most important test of all: their future.



A p p l e L e a r n i n g S o l u t i o n s



CHINESE STEELMAKERS ARE LOSING THEIR STATE SUBSIDIES AND ARE BEING FORCED TO FACE INTERNATIONAL COMPETITION

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BOUNCING THROUGH THE FLAK
McDonnell Douglas' earnings are up, but its commercial and military businesses are hurting

HIGH ROLLING ON THE RIVER
Promus is rapidly expanding its gaming business by launching riverboats and eyeing Indian casinos

RUNNING ON EMPTY?
Alaska's MarkAir is determined to survive Chapter 11—by expanding

Science & Technology

THE RACE TO REPLACE CFCs
How a worldwide, all-out effort—spurred by strict government phaseout dates—has paid off

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When he isn't fixing up Equitable Cos., Dick Jenrette likes to rebuild other houses

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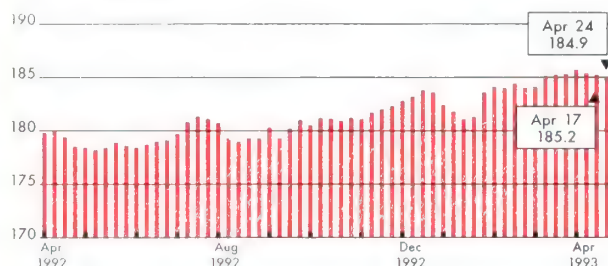
A new China Policy for a new China
The President and economic gridlock

BusinessWeek Index

PRODUCTION

Change from last week: 0.2%
Change from last year: 3.6%

1967=100 (four-week moving average)

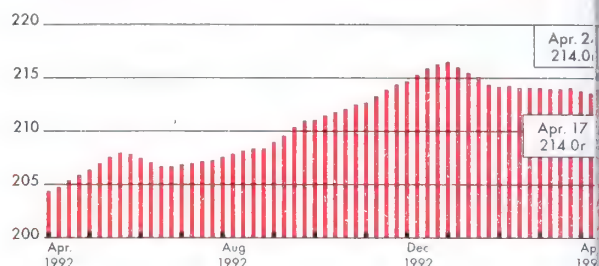


The production index continued to slip during the week ended Apr. 24. On a seasonally adjusted basis, output levels of steel, autos, trucks, crude-oil refining, paper, and lumber all increased. Paperboard and coal production declined, while rail-freight traffic and electric power output were unchanged from the previous week. Before calculation of the four-week moving average, the index rose to 184.4, from the prior week's reading of 183.7.

BW production index copyright 1993 by McGraw-Hill Inc.

LEADING

Change from last week: 0.0%
Change from last year: 3.8%



The leading index was flat during the week ended Apr. 24, but the index's unaveraged performance does not augur well for the economy. Lower stock prices, jump in the number of business failures, and deteriorating growth rates for material prices, M2, and real estate loans were all negative signs this week. The only positive signal came from lower bond yields. So, before calculation of the four-week moving average, the index dropped to 213.2, from 215.2 in the previous week.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (5/1) thous. of net tons	1,824	1,849#	1.2
AUTOS (5/1) units	133,701	130,333r#	2.0
TRUCKS (5/1) units	101,080	104,222r#	19.1
ELECTRIC POWER (5/1) millions of kilowatt-hours	51,728	51,559#	-0.2
CRUDE-OIL REFINING (5/1) thous. of bbl./day	13,647	13,678#	3.1
COAL (4/24) thous. of net tons	18,732#	18,833	2.9
PAPERBOARD (4/24) thous. of tons	782.1#	831.7r	-1.6
PAPER (4/24) thous. of tons	797.0#	784.0r	2.7
LUMBER (4/24) millions of ft.	463.6#	449.1	-7.2
RAIL FREIGHT (4/24) billions of ton-miles	21.3#	21.1	6.0

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWPAA, SFPA, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (5/5)	110	112	132
GERMAN MARK (5/5)	1.58	1.59	1.63
BRITISH POUND (5/5)	1.57	1.57	1.80
FRENCH FRANC (5/5)	5.32	5.37	5.50
CANADIAN DOLLAR (5/5)	1.28	1.27	1.20
SWISS FRANC (5/5)	1.42	1.44	1.51
MEXICAN PESO (5/5) ¹	3.095	3.075	3.089

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (5/5) \$/troy oz	354.250	349.700	5.2
STEEL SCRAP (5/4) #1 heavy, \$/ton	106.50	106.50	13.3
FOODSTUFFS (5/4) index, 1967-100	205.0	205.6	0.8
COPPER (5/1) c/lb	89.3	90.1	-14.0
ALUMINUM (5/1) c/lb	52.0	51.8	-14.0
WHEAT (5/1) #2 hard, \$/bu.	3.37	3.56	-14.0
COTTON (5/1) strict low middling 1-1/16 in., c/lb.	56.03	56.56	-0.9

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (4/30) S&P 500	437.73	442.54	
CORPORATE BOND YIELD, Aaa (4/30)	7.40%	7.34%	
INDUSTRIAL MATERIALS PRICES (4/30)	97.2	97.3	
BUSINESS FAILURES (4/23)	391	332r	
REAL ESTATE LOANS (4/21) billions	\$394.4	\$396.9	
MONEY SUPPLY, M2 (4/19) billions	\$3,468.3	\$3,477.7r	
INITIAL CLAIMS, UNEMPLOYMENT (4/17) thous.	356	333r	

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Street (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
CONSTR. SPENDING (Mar.) annual rate, billions	\$442.7	\$446.4r	
12 LEADING INDICATORS COMPOSITE (Mar.) index	152.0	153.5r	
PERSONAL INCOME (Mar.) annual rate, billions	\$5,260.3	\$5,227.8r	
MANUFACTURERS' INVENTORIES (Mar.) billions	\$380.0	\$379.1	

Sources: Census Bureau, Commerce Dept

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (4/19)	\$1,038.7	\$1,043.6r	
BANKS' BUSINESS LOANS (4/21)	275.2	273.8r	
FREE RESERVES (4/28)	1,288	819r	
NONFINANCIAL COMMERCIAL PAPER (4/21)	157.6	151.6	

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (5/4)	2.94%	2.72%	3.7
PRIME (5/5)	6.00	6.00	6.5
COMMERCIAL PAPER 3-MONTH (5/4)	3.10	3.12	3.8
CERTIFICATES OF DEPOSIT 3-MONTH (5/4)	3.06	3.08	3.8
EURODOLLAR 3-MONTH (5/1)	3.06	3.09	3.9

Sources: Federal Reserve Board, First Boston

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

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**EXECUTIVE PAY:
THE DEBATE AIN'T OVER**

Last night, as I was trying to catch up on my reading, the first two items I pulled from my never-ending stack were our local newspaper and the Apr. 26 edition of BUSINESS WEEK. In the paper was a story about the volunteer program at our city hospital, a Hospital Corporation of America facility. The article was soliciting hospital volunteers. Along with this health-care news, I'd remembered a conversation I had over the weekend with a neighbor who's a nurse at the hospital. She was talking about the understaffing and overworked atmosphere in the facility that, to her, were jeopardizing health-care delivery and compromising patient safety. It was easy to draw the conclusion that our local hospital was expecting some challenging financial realities.

I put the newspaper down and then picked up BUSINESS WEEK with the headline "Executive pay: The party ain't over yet" (Cover Story, Apr. 26). Right there on your outside cover was Thomas F. Frist Jr., chief executive of Hospital Corporation of America, the parent company of our financially challenged local hospital. I'm quite sure that Frist's \$127 million compensation package appears to be fairly high on the unjust-enrichment continuum. More than that, however, there is a contradiction between his remuneration and the professed business realities at the bottom of his organizational pyramid.

Frist and the HCA board have allowed a gross impropriety to occur and negative perceptions to be developed. Today's business leaders have an obligation to not only manage their businesses but also the marketplace perceptions they develop. Because Frist does not appear to "walk the talk," he deserves all the bad press he can get.

Eric L. Harvey
Dallas

As an executive recruiter, we analyze our logjammed files of petent, out-of-work CEOs in the \$1 million range to replace Thomas Frist. a minimum fee, we can find someone who would be happy to just have a
 John B. Norri
Cockeysville,

It was interesting to note that three of the top seven executives were in health-care field! Is President Clinton genius or just lucky? Do you think he knew that by proposing a tax increase at the end of last year, he would be able to trigger a landslide of stock sales that would put the best possible argument for health-care cost controls on the cover of BUSINESS WEEK?

Angelo LoMas
New York

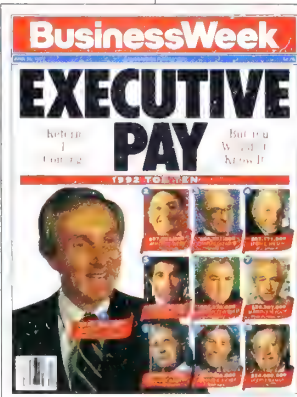
Your cover removed all doubt about the need for major health care reform. A health care system in which the chief executive of a profit hospital has earned \$127 million

in 1992 while there are 37 million uninsured Americans and 50 million underserved Americans is a national disgrace that requires major surgery.

Dr. Leon Rein
Baltimore

Your article has a highly objectionable and faulty premise in it. While raising the issue of "excessive" executive pay, you include the aspect of stock options in total compensation. While it is true that stock options can be abused, such as issuing them at a striking price that is below the current market price, in general they are not abused.

There is no doubt a number of greedy executives who are greedy and overpaid. To say that their compensation is a result of exercising stock options that cost the company nothing, is excessive while at the same time the stockholders have profited handsomely is ridiculous. This thinking smacks of socialism.



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Mark B. Brimley
Gilbert, Ariz.

Your article appears to be scripted more by some liberal Washington staffer than by the professional business journalist one would expect to author this article.

Most of our country's top entertainers and rock stars would not work for what they would consider such "paltry" sums on an annual basis. Would the shareholders rather have Madonna running Coca-Cola Co.?

K. F. Yontz, Chairman
Sybron Corp.
Milwaukee

Reportedly, to the horror of other manufacturers, Henry Ford paid his early assembly-line workers \$5 a day with the intent of creating a market for his Model Ts. How different from today's CEOs, who do their best to lower the take-home pay of workers.

There's no question that a good chief executive contributes and deserves much more than the rank and file. However, the current discrepancy is obscene. Let's get more money in the hands of the rank and file and see how our economy takes off.

Robert E. Heisserman
Pittsboro, N. C.

Taxing salaries in excess of \$1 million per year is one thing, but limiting the tax to business salaries is discriminating in the wrong way. Executives create jobs and value. Sports and entertainment salaries in excess of \$1 million create comparatively fewer jobs. Targeting executives sounds like business bashing from the Billary White House.

J. A. Steer
Durham, N. C.

I'm a stockholder of Primerica Corp. and was proud of it until I read of Sanford I. Weill's 1992 total compensation of \$67,635,000. This is irresponsibility at its zenith.

Also as a stockholder, I'm quite proud that Colgate-Palmolive Co. is currently undertaking new studies to correct the

problem of excessive pay for executives.
Max Pensinger
Tucson

CORRECTIONS & CLARIFICATION

BUSINESS WEEK 1000 (1993 Bonus issue) misstates the market value of Primerica Corp. The correct figure is \$6,347 million, which lifts the company No. 129 from No. 213. Also, Primerica's price as a percent of book value should be 170, and its shares outstanding should be 167 million. The market value of Teco Energy is also misstated. It should be \$2,608 million, making it company No. 350 instead of No. 4. Its correct price as a percent of book value is 273, and it has 57 million shares outstanding.

In addition, the glossary accompanying the tables incorrectly stated that I/B/E/S Inc. is a service of Lyndon Jones & Ryan. The two are no longer affiliated.

The correct spelling of No. 915 in the BUSINESS WEEK 1000 Tables is Adaptec. The name of No. 445 in the BUSINESS WEEK 1000 Tables is not Hormel Foods, not Geo. A. Hormel.



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s a laid-off employee of Digital Equipment Corp., I have to take to task in your lambasting of Ken (A double gold star—and two boorizes," Cover Story, Apr. 26). For more than 30 years, Olsen successfully guided the company through twists and turns in the computer industry. From scratch, he built and tagged a \$13 billion-plus corporation. Making for myself, and probably a couple of hundred thousand other current former Digital employees, all I can enjoy the dough, Ken, you earned. And we had a good time, too.

James Mahoney
Lawrence, Mass.

What I would really like to see is a report on "Executive income tax payments."

F. H. Allardt
San Luis Obispo
Calif.

as struck by the juxtaposition of our latest cover story on low-performing U.S. executives enjoying multi-million-dollar packages and your previous "The Mexican worker" (Cover Story, Apr. 19) on high-performing Mexican workers subsisting on \$2.50 an hour (\$.).

How many of the 10 U.S. executives adorning your cover, who obviously believe they are worth every penny of their million-dollar weekly compensation packages, believe that U.S. workers are overpaid and uncompetitive at \$24,411 a year, and how many are enthusiastic supporters of the North American Free Trade Agreement and the Mexican government policy of holding down the wages of Mexican workers?

It's little wonder that the only remaining U.S. support of the proposed trade agreement, with the pact's downward pressure on U.S. wages and environmental standards, comes from business and academic free traders such as Rudi Dornbusch ("Why the U.S. needs to nail down NAFTA," Economic Viewpoint, Apr. 26).

We can have neither a strong economy nor a strong society with a business philosophy that no worker can be paid too little, nor any manager too much.

David C. Korten
New York

AIR FORCE BASE CONVERSIONS AREN'T BUILT IN A DAY

I read with disappointment your article "Lessons from the first big base to go dark" (Top of the News, Apr. 5) on

the closing of Pease Air Force Base.

Conversion is a complex undertaking. The tasks and time needed to redevelop a 4,000-acre military base such as Pease take decades, as with any major community-redevelopment project. The Tradeport has had more than modest success. In the two years since closure, more than 1,000 jobs have been created.

Some of these are federal jobs. Federal agencies have first claim to any property no longer needed by the Pentagon. These jobs must go somewhere in the country. Those located at Pease helped to launch the redevelopment.

All communities are amateurs when facing a base closure. They must learn, make mistakes, and proceed. It is foolish to suggest otherwise. Your article undermines four years of hard work. Millions of business people who read your article will get a distorted view of the Tradeport. This can only hurt redevelopment.

David A. MacKinnon
Senior Project Manager
Office of Economic Adjustment
Defense Dept.
Washington

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TOWERS OF DEBT: THE RISE AND FALL OF THE REICHMANNS

By Peter Foster

Key Porter • 312pp • \$24.95

MASTER (IMAGE) BUILDERS

For years, the mere mention of Paul Reichmann was enough to bring a hush over gatherings of bankers. It wasn't just that he and his brothers, Albert and Ralph, had built Olympia & York Developments Ltd. into the world's largest real-estate developer, changing the faces of New York, London, and Toronto. Reichmann had also become one of Canada's dominant takeover artists, acquiring a multibillion-dollar empire that included Gulf Canada Resources Ltd. and newsprint giant Abitibi-Price Inc. Perhaps most impressive, he had cultivated a mystique without parallel in world business.

Reichmann, the legend went, was a financial genius who could do no wrong and whose word was his bond. As Peter Foster, a financial writer based in Canada, shows in *Towers of Debt: The Rise*

and *Fall of the Reichmanns*, the developer brilliantly exploited this image to hide any problems as he built his empire.

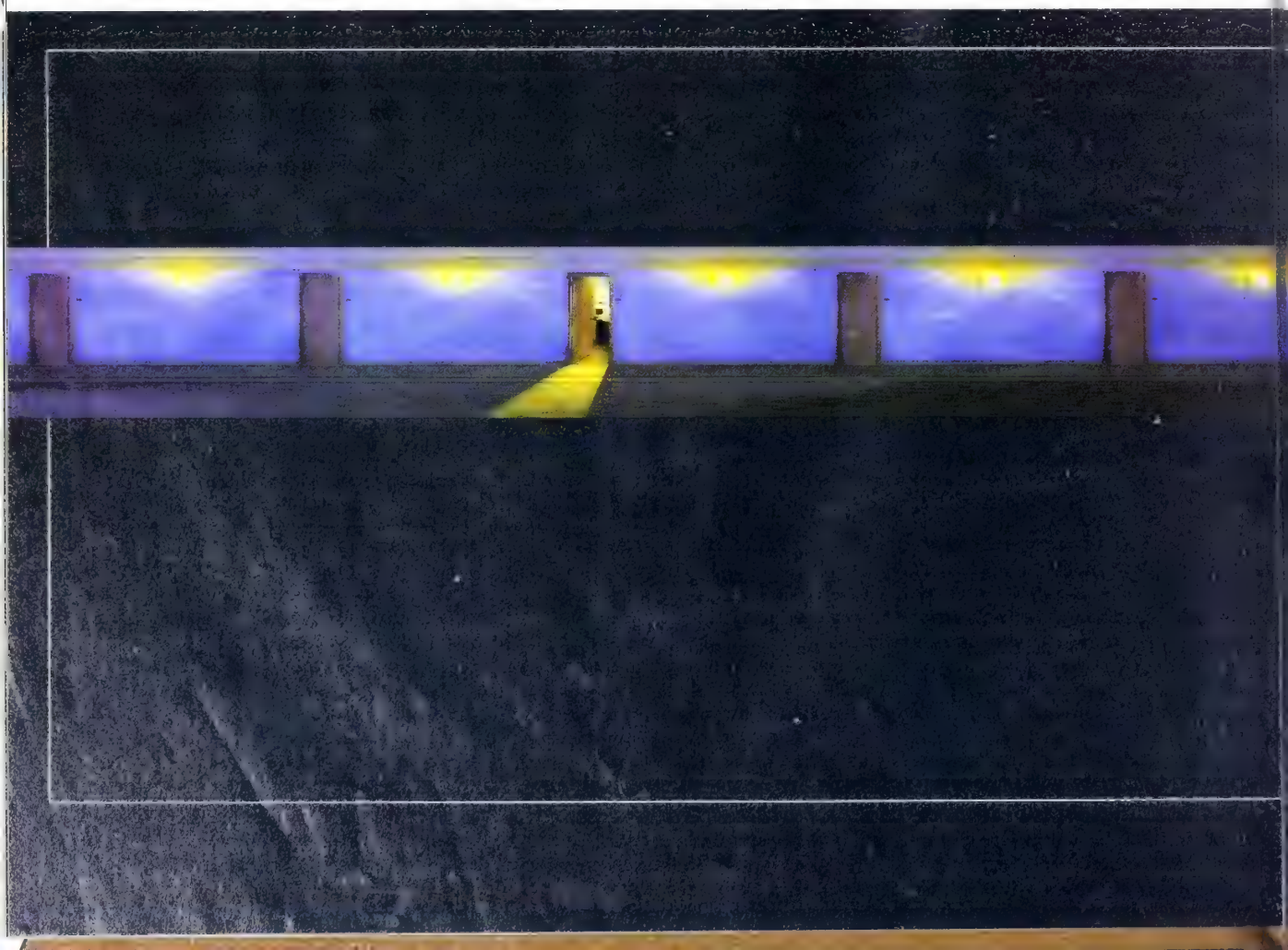
During the debt-crazed '80s, few corporate borrowers rivaled O&Y in its appetite for funds. When O&Y filed for bankruptcy protection last year, it owed well over \$10 billion to almost 100 lenders, including virtually all of the world's top banks. Yet, incredibly, few if any of these bankers had ever gotten a thorough look at O&Y's books.

These bankers, Foster argues, were all but blinded by the Reichmann mystique. They had convinced themselves that Reichmann was a "philosopher king" who "had to have an exceptional character and supernormal standards of integrity," he writes. "Otherwise, why were the banks lending so much money to a man who wouldn't open his books?"

Bankers weren't the only ones zled. Journalists didn't get access to O&Y's books, either—but that didn't stop them from propagating the notion that Reichmann was so rich he hardly needed to borrow. As late as the fall of 1989, *Fortune* ranked the Reichmanns as the world's fourth-richest family, worth \$4 billion. Less than a year later, bankruptcy filings revealed that O&Y had no net worth. Now, much of the company is in the hands of creditors, and Reichmann is trying to mount a comeback with a real estate investment venture, Reichmann International LP.

Towers of Debt comes remarkably soon after O&Y's collapse. But Foster had a head start, having published an earlier book on the Reichmanns, *Master Builders*, in 1986. *Towers of Debt* incorporates some of that earlier work while bringing the story up to date.

For readers who have followed O&Y's recent travails in the press, the book will hold more interest as the saga of the Reichmanns' incredible rise. Paul, Albert, and Ralph—the three young sons of six children—were born in Vienna but the family fled to Morocco to escape Hitler. While their father prospered among the Jewish money dealers,

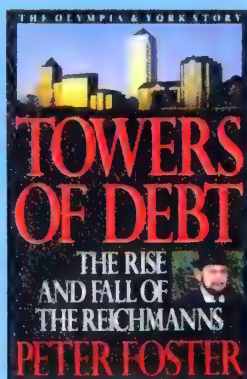


gier, the children
re steeped in the Tal-
d. They also helped
ir mother pack huge
eels of food and cloth-
to ship to Nazi con-
centration camps. Years
er, Paul would become
of the world's lead-
benefactors of Jewish
rities, and his devout
hodox Judaism would
come a key part of his
stique.

n the 1950s, the family
migrated to North Amer-
eventually settling in
onto. There, the broth-
built a tile-importing
business. When it grew,

y asked contractors to submit bids
a building. Paul found them all too
h, and the brothers constructed the
dging themselves, for about half the
rest bid. Reichmann had found his
ing. He would go on to become New
k City's biggest landlord and launch
rope's largest real estate project, Lon-
don's Canary Wharf. Among his most
ous moves was his 1977 decision to
y some 10 million square feet of Man-
hattan office space just when many
ought New York was all but dead.

The Reichmanns
WENT WORK such that
most lenders failed
to question
their solvency



made some colossal blunders, especially in trying to diversify. And his timing of Canary Wharf was terrible: The first phase opened during London's worst real estate downturn in decades. Still, Reichmann has had a lasting impact in setting the standard for high-quality office buildings in North America. Even in London, his vision of Canary Wharf as an alternative to the crowded City may yet be realized. The project is moving ahead, albeit slowly, with support from its bankers, but

without the Reichmanns' involvement.

Thanks to its remarkable subject, *Towers of Debt* moves swiftly. But it fails to answer all the questions readers might have about Paul Reichmann—not surprising, given how hard the book follows on the headlines. Foster amply documents the Reichmann mystique, but he never penetrates it. The man who so awed financiers remains an enigma.

BY WILLIAM C. SYMONDS

As Toronto Bureau Manager, Symonds covered Olympia & York's 1992 collapse.

When the market roared back in the '80s, that purchase became known as real estate's "deal of the century."

Foster does a credible job of laying out this tale. But even though he interviewed both Paul and Albert before O&Y's collapse, this is far from an insider's account. Worse, Foster doesn't invest the space—or research—to endow the story of the Reichmanns' childhood with the color and detail it merits.

Moreover, Foster's assessment of Paul Reichmann is unduly harsh. True, he

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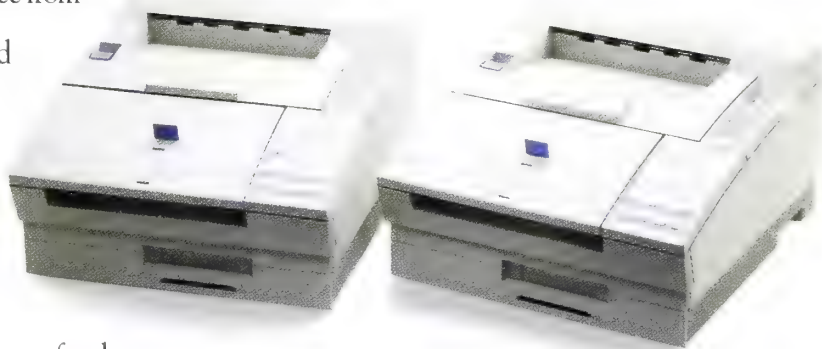
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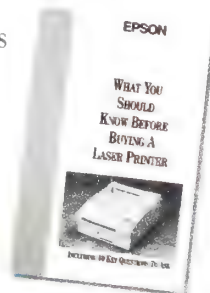
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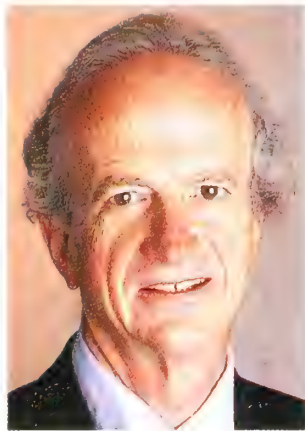


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ARGENTINA'S WELCOME TURN TOWARD THE OPEN ROAD

BY GARY S. BECKER



It's not out of the woods yet, but if Argentines continue to support President Menem's vigorous free-market reforms, a new era of economic health could be on the horizon

In trying to console a young man who feared that England was ruined by its defeat at Saratoga in 1777, Adam Smith said: "There is a great deal of ruin in a nation." During the past 60 years, Argentina has severely tested this assertion with disastrous economic policies promoted by governments of all political stripes. At the invitation of a private Argentinian foundation, I recently traveled to Buenos Aires to better understand the lessons of the Argentine experience.

At the beginning of this century, Argentina attracted large-scale immigration from Italy, Spain, and Eastern Europe because its per-capita income ranked among the 10 highest in the world. But after its unparalleled fall in economic standing, more than 70 countries now have higher incomes.

In the 1930s, driven by populist sentiment and the advice of prominent Latin American economists, Argentina began to abandon the open economy and free-market policies that were responsible for its prosperity. High tariff walls were erected to shield domestic companies from international competition. The state nationalized most heavy industry, regulations and price controls became pervasive, and unions dictated policy on labor issues. Successive governments resorted to the printing press rather than taxation to finance growing public expenditures, so hyperinflation began to destroy the economy in the 1980s.

DOLLAR DAYS. When Carlos Saúl Menem of the Peronist party was elected President in 1989, Argentines and the international business community prepared for the worst. Instead, Menem firmly supported the efforts of Domingo Cavallo and other economic ministers to control inflation and dismantle state management of the Argentine economy. To open the economy to global competition, tariffs have been drastically cut. In a little over three years, most state-owned enterprises have been privatized, including telephone, gas, and airline companies. And the government recently proposed selling 50% of the giant state oil company. Price controls over most products have been eliminated, and regulations have been sharply reduced. To allay fears about inflation, the number of pesos that can be issued has been tied to dollar reserves. Transactions no longer have to be in the Argentine peso, and dollars freely circulate among businesses and consumers.

In a private meeting, President Menem told me that he will continue to back free-market policies. Despite his Peronist protectionist background, he proudly said the speed of reform was unprecedented.

In my view, Menem's support is explained

by the shadow cast over all of Latin America by the free-market reforms of Argentina's small neighbor, Chile. Under the authoritarian rule of General Augusto Pinochet, Chile dismantled controls that had been similar to Argentina's. Domestic companies were forced to compete on the international market through steady reductions in tariffs, which have now reached a uniform 11%—among the lowest anywhere. Chile sold off many state enterprises, including airline and bus systems, electric power and telephone companies, and large quantities of state land. Here I must declare personal interest: Many of these reforms were carried out by former economics students of the University of Chicago.

GROWING FAST. These and other free-market reforms under Pinochet have been maintained by the government that was elected democratically in 1989. As a result, Chile's growth in the past 10 years has surpassed that of other Latin American countries. The reform also helped diversify the economy so that the importance of copper in total exports is now far below its 80% share in the early 1970s.

There is a sharp rivalry between Chile and Argentina, and Argentines tend to regard themselves as culturally superior. Thus, many Argentines concluded that if Chile could succeed by adopting market solutions, they could too—and do a better job. Paradoxically, Chilean businessmen and companies have become major participants in Argentina's newly privatized economy.

Although Argentina's economy has begun to grow, it is not yet out of the woods. To increase the value of the state-owned companies up for sale, many of them were given protected monopoly markets. Social Security and other employment taxes and regulations are still much too expensive. Stiff quotas on imported cars and other goods still shelter some domestic producers from competition. A higher rate of inflation than in developed countries has caused the Argentine peso to be overvalued compared with the dollar and other world currencies. Yet a devaluation risk is destroying investors' fragile confidence that Argentina will no longer print its way to hyperinflation.

Crucial decisions lie ahead for the Menem government, complicated by congressional elections in October. But most people seem willing to endure hard times to make the future brighter. Reform there, as in the rest of Latin America, now means privatization, freer markets, and democracy. If Argentines continue to follow the trail blazed by Chile, their nation will have a chance to recover the economic standing it had when this century began.

GARY S. BECKER, THE 1992 NOBEL LAUREATE, TEACHES AT THE UNIVERSITY OF CHICAGO AND IS A FELLOW OF THE HOOVER INSTITUTION



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BY GENE KORETZ

A TRADING REGION COMES OF AGE IN THE PACIFIC

With Japan and Europe still mired in recession and growth slowing in Latin America, it may be only a question of time before the buoyant developing economies of the Pacific Rim begin to lose steam as well. Economists at American Express Bank Ltd. in London argue, however, that the so-called newly industrialized countries (NICs) and their fast-growing neighbors should ride out the storm with little pain. A major reason: surging intraregional trade.

As recently as 1986, notes an article in the monthly *Amex Bank Review*, intraregional exports between China,

intraregional trade has bolstered the group's self-sufficiency and is cushioning its vulnerability to the slumps in Europe and Japan. Because Pacific Rim exports to each other and to the expanding U.S. economy are far larger than exports to Japan and the EC, Amex economists believe the group can continue to post relatively strong growth.

The economic implications for the group's industrial trading partners seem more mixed. The Pacific Rim nations account for only a small fraction of European exports, and the EC continues to run trade deficits with the area.

For U.S. exporters, on the other hand, the Rim has provided fast-paced demand growth—notably for industrial materials, agricultural products, and capital goods. But the problem for the American economy is that its imports from China and Taiwan far exceed its rising exports. Until there's more balanced trade with China and Taiwan, the U.S. will suffer a significant trade deficit with the region as a whole.

Indeed, according to economist Tony Riley of A. Gary Shilling & Co., only Japan among advanced nations emerges as a clear beneficiary from the Pacific Rim's growing self-sufficiency. He notes that Japan's trade surplus with its neighbors now exceeds its surplus with the U.S. "The Pacific Rim," he observes, "benefited from a huge infusion of Japanese direct investment during the 1980s." And the region is now paying back that investment by providing a ready market for Japanese capital goods and other products.

since 1979—is an improved bottom line.

"Strong productivity gains, slow wage growth, continued export strength, and a modest recovery in auto and machinery sales have combined to give heavy manufacturers a shot in the arm," says Swonk. "That's what's showing up in heavy-truck makers' order books."

FEWER BUSINESSES ARE THROWING IN THE TOWEL

Business failures are finally heading down. Dun & Bradstreet Corp. reports that 25,824 businesses folded in the first quarter, leaving \$12.9 billion in liabilities in their wake. That's a 10.3% decline in business casualties and a huge 43% drop in liabilities from the same period last year.

The tally shows the first quarter year-over-year decrease in failures in three years. D&B economist Joseph Duncan says that the drop in liabilities is particularly significant because it means that fewer big companies are failing. Many recent failures, he notes, involved small companies dragged down by the collapse of their large-company customers. "The waning of the ripple effect," he says, "is a clear signal that the economic recovery is on solid ground."

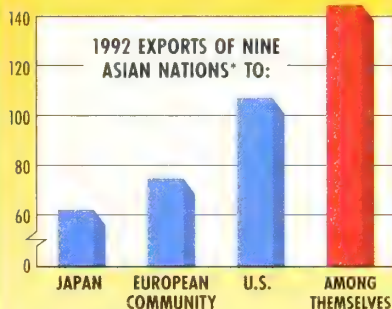
WHERE U.S. EXPORTS ARE SPEEDING UP —AND SLOWING DOWN

The dependence of U.S. exports on the current health of foreign economies is underscored by recent trade data. Economist Mitchell Held of Smith Barney, Harris Upham & Co. notes that though exports to Western Europe are down in the latest three months from the same period a year ago, exports to Britain are up a startling 17%. Calculated on a similar basis, U.S. exports to Canada and Australia are running 7.3% and 16.6% over last year while exports to the NICs are up about 10% and to China, 41%.

What these destinations have in common, of course, is economies that are expanding. Canada, Britain, and Australia are on the recovery trail, while the NICs and China are still posting strong growth.

The biggest cloud on the economic horizon, says Held, is Mexico, where the economy has slowed significantly. After rising handily through much of last year, U.S. exports to Mexico have been declining since the third quarter.

PACIFIC RIM TRADE STAYS CLOSE TO HOME



▲ BILLIONS OF DOLLARS

*CHINA, HONG KONG, INDONESIA, KOREA, MALAYSIA, PHILIPPINES, SINGAPORE, TAIWAN, AND THAILAND. ESTIMATES BASED ON FIRST-HALF 1992 DATA. CHINESE EXPORTS TO HONG KONG ARE EXCLUDED.

DATA: THE AMEX BANK REVIEW

Hong Kong, Indonesia, South Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand amounted to only 20% of their total exports (not counting Chinese exports to Hong Kong, which are reexported). But from 1986 to 1992, as export booms spread among the less prosperous members of the nine-nation group, their trade with each other jumped by 58%, or roughly twice as fast as their exports to Japan and the U.S.

The result has been a dramatic shift in trade flows. Intraregional exports—ranging from oil and foodstuffs to machinery parts and consumer appliances—now account for 30% of the group's total exports. In fact, they currently exceed both its exports to the U.S. and its combined shipments to Japan and the European Community (chart).

All of this brightens the near-term economic prospects of the export-driven Pacific Rim nations. As Amex economists see it, the growing importance of

WILL THE ECONOMY GET ROLLING, ALONG WITH THE SEMIS?

While car and light-truck sales seem to be accelerating, economist Diane Swonk of First National Bank of Chicago notes that another bellwether sector of the motor-vehicle industry is also flashing bullish signals for the economy. Heavy-truck sales have taken off and were up 44% over their year-earlier pace in the first quarter.

Heavy trucks, the big 15-ton-plus diesels that pull monster trailers along the interstates, are used by heavy manufacturers to haul parts, capital equipment, and the like to industrial customers. Behind the pickup, says Swonk, are low interest rates, pent-up demand, the need to meet new emission standards, and strong demand for used trucks from Mexico. But the biggest spur to heavy-truck sales—which may hit 140,000 this year, the best



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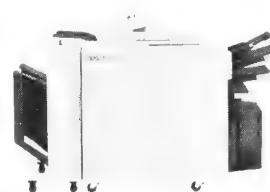
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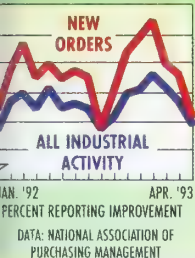
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COMPUTERS, COMMUNICATIONS, MICROELECTRONICS

URE, IT LOOKS BAD, BUT DON'T KISS OFF THE SECOND QUARTER YET

Is it a quadruple dip? More precisely: Is growth in the U.S. economy slipping, yet again, to a pace that feels like a recession because it is too puny to create jobs? Some of the latest data look disturbing enough. The March readings for consumer spending, factory orders, and the forward-looking index of leading indicators all tumbled. Those losses mainly reflect the month's blizzard that blanketed the East Coast and depressed sales and output. But the size of some of the declines suggests more weakness than the storm alone can explain.

PURCHASERS SEE WEAKNESS IN APRIL



And it's not just the weather-beaten March data. The nation's purchasing managers gave a downbeat assessment of April manufacturing activity (chart), and the broad M2 measure of the money supply, which fell precipitously in the first three months of the year, gives no hint of an April turnaround.

All this comes on the heels of the economy's lackluster performance last quarter, when real gross domestic product rose at a tepid 1.8% annual rate. That followed growth of 3.1% and 4.7%, respectively, in the third and fourth quarters of 1992. The GDP numbers showed a disconcerting mix of falling demand and inventory accumulation that typically presages trouble for future output.

KEEP AN EYE ON JOBS AND RETAILING

Is trouble brewing? Not yet. It is still too early to kiss off the second quarter. So far in April, reports from retailers and car dealers are encouraging. Also, the Federal Reserve Board's May 5 report on business activity, covering the period from Mar. 1 through Apr. 23, says that the economy is showing "generally modest improvement" across much of the nation. To be sure, the economy's ability to bounce back this quarter will be pivotal to the outlook, but the real tests of its resilience will be the broader April reports on employment and retail sales, due out in early May. Those numbers will decide how much of the economy's March weakness was weather-related and how much was real. A gain in April nonfarm payrolls that is significant—below the three-month trend of about 150,000 jobs per month—suggests new weakness in the labor markets. Also, the failure of retail sales to rebound by at least 1%, following March's 1% drop, implies that consumers may have more problems than just bad weather.

The March index of leading indicators looks especially foreboding. It fell 1%, a drop rarely seen in an expansion, except in special circumstances. Nine of the 11 indicators that make up the index declined. However, fewer building permits and a shorter factory workweek—two gauges strongly affected by the snowstorm—accounted for half of the overall dip.

The recent collapse in the M2 money supply also would seem to be a red flag signaling recession redux. M2 fell last quarter for the first time on record. Normally, that decline surely would have meant a drop in real GDP.

These are not normal times, though. The data strongly imply that M2 is depressed by outflows of money from bank deposits into stock and bond mutual funds that are not part of M2. This trend reflects the long-standing divergence between short- and long-term interest rates.

DEFENSE SPENDING HITS A LAND MINE

One of the newest concerns for the second quarter is last quarter's large accumulation of inventories in concert with weak demand. The GDP report showed that stock levels of nonfarm businesses grew at an annual rate of \$32.5 billion, the largest advance in four years, while final sales fell at a 0.3% rate.

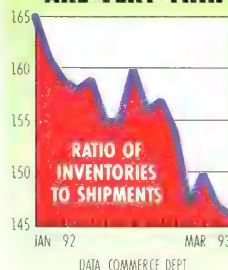
However, the inventory rise is not as ominous as it looks. Stock levels in manufacturing did not grow at all last quarter (chart), and the gain in wholesaling was small. The bulk of the buildup occurred in retailing, and more than half of that was autos. All this fits with the March storm: Cars and other goods cannot move when businesses are closed.

Moreover, the inventory backup and the falloff in demand occurred in totally different sectors. The real villain behind last quarter's drop in final sales was a 25.5% annual rate of decline in defense spending. That was the largest plunge since the end of World War II. Excluding defense, final sales slowed from a robust 5.7% rate of growth in the fourth quarter to a not-so-alarming 1.3%.

Clearly, growth in the second quarter cannot escape some impact from the first-quarter inventory buildup. Even if demand growth rebounds, some of the buying will simply reduce inventories without spurring new production. In the GDP numbers, that results in a wash.

That process could explain why manufacturing orders

FACTORY STOCKPILES ARE VERY THIN



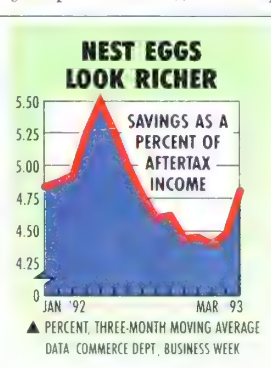
Business Outlook

and production looked weak in the April report from the National Association of Purchasing Management. The NAPM's index of industrial activity fell to 49.7% last month. A reading below 50% means that the factory sector is contracting. To the extent that retailers and car dealers sold from their inventories, they didn't order from factories. In that way, March weather may be having a delayed impact on factory activity.

However, a broader survey of manufacturers done by Dun & Bradstreet Corp. shows that optimism held at a record-high level in April. That confidence, combined with the Commerce Dept.'s report that the ratio of factory inventories to shipments dropped to an all-time low of 1.46 in March, suggests further output gains.

MORE NEW HOMES MAY DOT THE HORIZON

To be sure, the future direction for manufacturing lies in the hands of consumers who didn't lend much help to the first quarter. Their 1.2% pace of spending was far below the fourth-quarter pace of 5.1%. Still, aftertax income grew twice as fast as outlays, the savings rate jumped (chart), and April buying looks a little better.



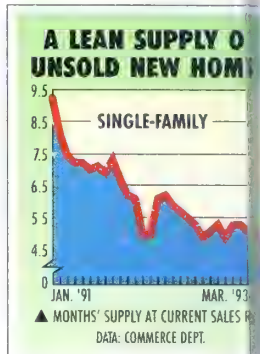
In storm-whipped March, spending fell by 0.4%. That causes an arithmetic problem that could put the economy's growth prospects for this quarter at a disadvantage. Because outlays ended the first quarter below their quarterly average, real spending will have to increase by 0.4% in each of the next three months in order to grow at an annual rate of 2% for the second quarter. Consumers have shown that kind of stamina only three times in the last four years.

However, shoppers may well be up to the challenge. Sales of U.S.-made vehicles rose to an annual rate of

11.8 million in April, the fastest pace in more than three years. Demand for cars and light trucks was one of the major drags on spending last quarter. A bounce-back here during the spring would boost consumer spending along with factory orders and production.

In addition, the *Johnson Redbook Report* says that April department-store sales were running 2.1% above the March level. Gains at both car dealers and department stores suggest a healthy increase for total April retail sales, which will be reported on May 13.

Consumers may be opening their wallets a bit wider because there is more green inside. Personal income rose by a solid 0.6% in March, although farm subsidies lifted the total. But after taxes and inflation, income is on an uptrend. Real disposable income grew at a 2.7% annual rate in the first quarter, a pace strong enough to keep consumer spending on the rise.



More muscle in the housing market also argues for a spring pickup in shopping, especially for furniture and appliances. Single-family home sales rose by 4.8% in March to an annual rate of 637,000. Plus, sales in each of the three previous months were revised higher.

The burst in buying pared builders' supply of unsold homes to just 5.1 months in March from 5.3 months in February. The supply has been running at this lean pace for six months now (chart). Inventories haven't been this low for that long in 20 years. This means that home building will be a big contributor to growth this quarter.

It also means that it's way too early to write the obituary on this expansion—or even on the second quarter. The key will be the April data that are now starting to trickle in. If they don't show some bounce, then neither will the economy.

THE WEEK AHEAD

PRODUCER PRICE INDEX

Wednesday, May 12, 8:30 a.m.

Producer prices of finished goods likely rose by 0.2% in April, according to the median forecast of economists surveyed by MMS International, a division of McGraw-Hill Inc. However, the drop in some cigarette prices may have caused a smaller increase in overall wholesale inflation than is generally expected. In March, a runup in energy costs caused producer prices to rise by 0.4%.

CONSUMER PRICE INDEX

Thursday, May 13, 8:30 a.m.

Consumer prices likely increased by 0.3% in April, faster than their 0.1% rise in March. But like producer prices, con-

sumer prices in April may have increased by less than is forecast because of falling tobacco prices.

RETAIL SALES

Thursday, May 13, 8:30 a.m.

The MMS economists expect that retail sales bounced back by 0.9% in April, after declining 1% in March. Snowstorms hurt sales in March, while rising purchases of cars and light trucks helped in April. Even so, excluding cars, store sales probably rose 0.8% in April, after dropping 1.2% in March.

INDUSTRIAL PRODUCTION

Friday, May 14, 9:15 a.m.

Industrial production probably fell by 0.1% in April, after no gain in March.

That's suggested by the steep decline in the National Association of Purchasing Management's index of production in April. As a result, capacity-utilization rates for all industry likely dropped to 79.8% in April, from 79.9% in March.

BUSINESS INVENTORIES

Friday, May 14, 10 a.m.

The MMS survey reports that inventories held by factories, wholesalers, and retailers probably rose by 0.4% in March with most of the buildup coming in retail. Business inventories also increased by 0.4% in February. Business sales probably advanced a small 0.1% in March after rising 0.6% in February. A 1.1% gain in factory shipments was partially offset by a 1% drop in retail buying.



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THE DEFENSE SHIFT HITS MAIN STREET

AS MORE JOBS VANISH, A SHAKY ECONOMY GETS HAMMERED

Ever have a tooth filled, and then suddenly, a month or two later, you get a raging ache in the same spot? That, simply put, is what defense cutbacks are doing to the economy.

Until now, thoughts of declining defense spending and arms cutbacks generally have been tempered by visions of peace dividends and a gentle post-cold-war letdown. Even announcements of pending layoffs and plant closings were items that could be worried about later: Much of the bloodletting was scheduled for what seemed the distant future.

Suddenly, the future is now, and the harsh reality is hitting many local communities—and a weak economy—like a painful throb in a molar. First-quarter growth was only a meager 1.8%, thanks in part to a big drop in defense spending. Defense purchases of goods and

services, adjusted for inflation, are projected to fall by 10% this year. That's more than the cumulative cuts for the previous four years put together. And the pace of actual defense industry layoffs—as opposed to just announcements—has accelerated by 35% in recent months (chart). “What we’re seeing is the bow wave beginning to hit,” says Richard Bitzinger, an analyst at the Defense Budget Project in Washington. “We’re finally coming to the end of the 1980s buildup.”

DEEP SLIDE. Unfortunately, the latest surge in defense cuts is hammering an already vulnerable economy. So far this year, Corporate America has announced layoffs of more than 200,000, with many more to come from stumbling behemoths such as IBM. An almost four-point decline in the April purchasing manag-

ers' index, meanwhile, suggests that manufacturing is slumping, at least temporarily. Overseas demand for U.S. exports is faltering as Germany slides deeper into recession and France follows. And consumers and businesses are worried about the prospect of huge tax increases to pay for the Clinton Administration's economic and health plans.

That's not to say that the U.S. is on the verge of another recession. Most economists expect growth to regain momentum in coming months. Auto sales are strengthening, for instance, and the housing market is sure to revive after its blizzard-induced coma in March.

But the defense industry's downsizing still looms large. All told, this year's drop in defense spending could depress 1993's economic growth by a full percentage point. “It's like pneumonia to a

MAY 17, 1993

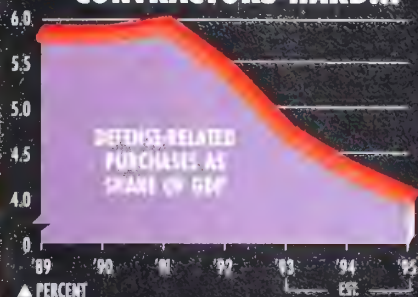


EXITING ELECTRIC BOAT IN GROTON, CONN.: WORRIES RUN DEEP, BUT NOT SILENT

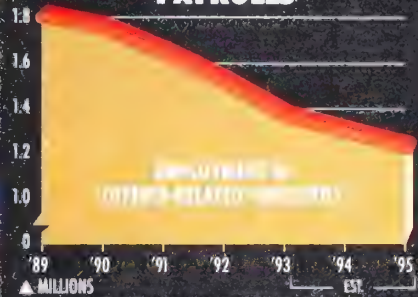
DOWNSIZING DEFENSE SPENDING...



...HAS HIT CONTRACTORS HARD...



...AND IS SLAMMING PAYROLLS



patient who is weak already," says Richard Belous, chief economist for the National Planning Assn.

Indeed, defense job losses are rocking most every region of the country. In the Dallas-Fort Worth area, the two largest defense subcontractors have announced big layoffs in recent months. In February, Texas Instruments Inc. said it could cut nearly 900 workers. On top of that, Vought Aircraft Co., formerly LTV Aerospace, which makes major portions of the B-2 stealth bomber in Dallas, has said it will cut 1,500 jobs this year, after ending an equal number last year.

Why are the cuts coming so fast and serious now? Many contractors are finding that the peace dividend just isn't working out. For one, Lukens Inc., a specialty steel producer based in Coatsville, Pa., lost money during the first

quarter on corrosion-protection products, reflecting weak construction activity. And demand for Lukens' military alloy plate, which goes into tanks and submarines, has shriveled—pushing the company into less profitable civilian markets.

Small subcontractors don't often make headlines, but they're adding to the pain. Just ask John E. Gregory, president and CEO at J.T. Slocomb Co., a South Glastonbury (Conn.) subcontractor to Pratt & Whitney Co. and other aerospace companies. In the past 18 months, declining orders have forced him to cut his work force in half, to 200, and to close plants in Waterbury, Conn., and Wildwood, Fla. "What we are doing is reducing our staff to keep a smaller amount of people working [full-time]," Gregory says.

Depressed labor markets are magnifying the impact of the cutbacks. Laid-off

defense workers are finding "No Hiring" notices up in all sorts of specialties where they might have been hired a year or two ago. Such previously strong alternatives as commercial aerospace and high technology are now cutting back, too. Northrop Corp. recently announced 2,400 layoffs after Boeing Co. scaled back production of the civilian 747 jets. And employment in the U.S. semiconductor and computer industries is down by 30,000 over the past year. The typical result: A study of workers laid off from McDonnell Douglas Corp.'s St. Louis operations showed that up to a year after losing their jobs, 44% had not found any work.

The white-collar set isn't faring much better. Fully half of all technical and professional employees—largely engineers and scientists—working in Southern California's defense and aerospace industry have lost their jobs, according to an upcoming study from Rand Corp. A year after being laid off, most of those highly skilled workers have not found other work. "Southern California is a lot worse than people realize," says James N. Dertouzos, a Rand economist.

MORE TO COME. When arms workers do land new jobs, they usually find their incomes downsized. For instance, hiring at the booming Foxwoods Casino in Ledyard, Conn., run by the Mashantucket Pequot Indians, has helped cushion the defense job cuts at the General Dynamics Corp.'s Electric Boat shipyards in nearby Groton. But the casino pays 25% to 40% less than the \$13 or so hourly that the shipyard paid.

There's more bad news coming: The third round of military base closings in five years is on its way. In mid-March, Defense Secretary Les Aspin proposed closing 31 major military installations by the year 2000, plus cuts at dozens of smaller bases. The toll on communities such as Charleston, S.C., longtime home to a large naval port, could be stark. In early May, state and local officials in South Carolina told Congress that plans for plant closings could cost more than 36,000 jobs and take a \$1.1 billion slice out of the local annual payroll.

Worst of all: It ain't over yet. The Clinton Administration wants to slice \$127 billion worth of defense spending out of the budget over the next five years, but it hasn't figured out what programs or people will be cut. Add it all together and one thing is clear: Americans keep waiting for the boom after the bust. What many are getting, instead, is the dull ache of layoffs and cutbacks.

By Michael J. Mandel in New York and Tim Smart in New Haven, with Eric Schine in Los Angeles, Christopher Farrell in New York, and bureau reports.

THE 1993^{1/2} CLINTON PULLS ONTO THE TRACK

Can he win back a Middle America turned off by his sputtering start?

The first Clinton Administration is dead. Hail to the new Clinton Administration.

That, at least, is the tune that some Democrats are singing amid signs that President Clinton is steering his drifting ship of state toward the political center.

During his first 100 days, Clinton's initial focus on deficit cutting and economic stimulus was obscured by such

heightened by fears of a health-care plan financed with stiff new taxes—sent his poll ratings down and triggered intensive White House strategy sessions. Although talks are ongoing, White House advisers say the President is weighing steps to shake his image as a traditional Democrat—and rekindle his appeal to swing voters. Among the options:



BENTSEN: MIDDLE-OF-THE-ROAD

PUSH-PULL IN THE CLINTON WHITE HOUSE



MAGAZINER: HEALTH CRUSADER

PRAGMATISTS

Moderates, led by Lloyd Bentsen, believe long-term investment is more important than stimulus

Bentsenites scoff at market-share targets and fret that the approach could trigger a trade war

Economic advisers oppose price controls and want a limited health-reform plan

Moderates urge the Prez to stress crime prevention, welfare reform, and "New-Democrat" issues

THE ECONOMY

Worried that the recovery has stalled, liberals want to revive the President's stimulus package

TRADE

Trade czar Mickey Kantor and others want Japan to agree to market-share targets

HEALTH CARE

Health guru Ira Magaziner wants reform that pairs big benefits with stiff new taxes

SOCIAL ISSUES

Activists have prodded Clinton to move on issues such as abortion rights and gays in the military

DATA: BUSINESS WEEK

issues as gay rights, abortion, "diversity," and a profusion of White House initiatives. The impression, says a party moderate, "was of an agenda that was skewed to the left. We saw the Clinton who worked for McGovern in '72, not the man who headed the [centrist] Democratic Leadership Council" in 1989-90.

The perception that Clinton was edging out of the cultural mainstream—

■ **Send in the grown-ups.** Until now, Clinton has shown unswerving faith in his White House crew of youthful former campaign aides, known collectively as "the children" on Capitol Hill. But the President now believes that an inexperienced White House team, presided over by Chief of Staff Thomas F. McLarty III, has failed to exercise coherent management over the Administration. Says a

senior White House official: "Mack has too much on his plate."

A Washington neophyte whose overwhelmed deputy is 36-year-old Mark Gearan, McLarty is expected to appoint Roy M. Neel, an aide to Vice-President Al Gore, to help run operations. Inside also say that a Clinton intimate may be named counselor and given the difficult task of keeping Bill and Hillary Rodham Clinton from flooding the Hill with liberal nostrums. "Clinton needs a counselor who focuses on the budget, health care and whatever foreign crises come up—and obliterates everything else," says one adviser.

Meanwhile, communications czar George R. Stephanopoulos, who alienated the press by keeping it at bay, will curb his public role, ostensibly to focus on strategy. He has "gotten too glamorous too fast," says a party veteran.

Until now, White House political aides have been a remarkably insular bunch. Increasingly, though, they are seeking the advice of veteran Democratic pollsters. "A lot of people who weren't asked into the Administration are smiling today," says one such operative. "We predicted this crew would go four months, screw up, and start asking for help."

■ **Rediscover the economy.** Although Clinton began his Presidency with spending restraint and competitiveness as overarching themes, he now concedes that his eagerness to solve social problems contributed to the Administration's policy vertigo. As a result, he is focusing more of his public exhortations on the need to pass his budget, and with it, a long-term investment strategy.

Although some deny it, there are also signs that Clinton's moderate economic team—Treasury Secretary Lloyd Bentsen, Budget Director Leon E. Panetta, National Economic Council honcho Robert E. Rubin—are pressuring for more disciplined, less interventionist policies. Panetta has warned openly that unless Clinton delays the North American Free Trade Agreement and his health-care blueprint, he risks sinking his entire economic program.

The health plan has become a particular target of centrists. In an Apr. 29 briefing by health coordinator Ira C. Magaziner, stunned Clinton economic aides were told the plan could cost the government upwards of \$100 billion in new spending a year. Publicly, Rubin insists that "Ira has done a magnificent job." Privately, Clinton's economists have begun a campaign to limit the program's scope and to cut the burden on companies and the middle class. "There is a great deal of concern among the President's economic advisers that we not take on more than the system

a bear," says one Clinton confidant. As the Administration's leading conservative, Treasury's Bentsen has been especially active in the drive to slide policy back toward the center. He has emerged as an increasingly vocal critic of medical price controls, bellicose trade rhetoric, and overregulation of business. Even Labor Secretary Robert Reich, a liberal, has changed his tune. Recently disappointed union allies endorsing NAFTA, and he's among those urging caution on health care.

Set back to the future. Concerned about the liberal cast of Clinton's early policies, aides have begun consultations with DLC President Al From and key moderates. The results are already evi-

dent: On Apr. 30—day 101 of the retooled Clinton Presidency—the First Wonk journeyed to New Orleans. There, to cheers of DLC members, he unveiled a plan to offer \$10,000 in college loans to young people in exchange for two years of public service.

The national-service plan is the first of a series of new centrist initiatives Clinton will unleash. In July, there will be a plan to streamline government. This fall, he'll announce a proposal to step up training of welfare mothers—and to cut off benefits after two years. The crime issue, which dropped off Clinton's radar screen in Phase I of his Presidential odyssey, will make a comeback, too. During budget talks, he'll lobby hard for

more funds for law enforcement. The intent, says From, "is to reinforce the themes of opportunity, responsibility, and community."

Will any of it work? Maybe. Many analysts believe that, although Clinton's leftward lurch has cost him some crucial support among business, independents, and GOP moderates, he still has time to recoup with a return to middle-class themes. "It'll be difficult to get back on his message," says University of Virginia political scientist Larry Sabato. "But Clinton has shown that he can keep reinventing himself." Presto! Ladies and gentlemen... meet the New Clinton.

By Lee Walczak and Susan B. Garland in Washington

Commentary/by Douglas Harbrecht

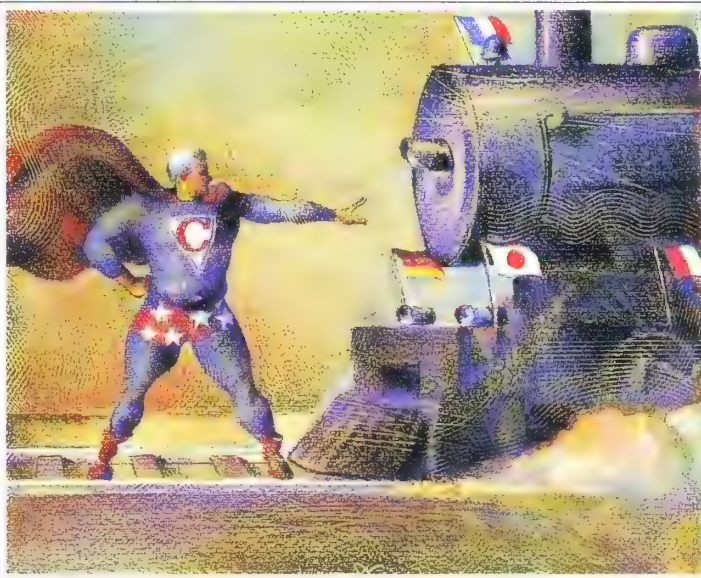
TRADE: 'PERHAPS WE SHOULD JUST SHUT UP FOR A WHILE'

Nothing annoys U.S. Trade Representative Mickey Kantor so much as the suggestion that there might be some ideology behind Clinton Administration trade policy. "Managed trade, free trade, protectionism—we reject these labels," he huffs.

No wonder that those trying to describe the message behind the Administration's trade policy use the word "confused." To hear some tell it, the Administration is engaged in a trade war—with itself. Free traders, such as Treasury Secretary Lloyd M. Bentsen and National Economic Council Chief Robert E. Rubin, are supposedly locked in combat with such aggressive trade hawks as Kantor and Laura D'Andrea Tyson, head of the Council of Economic Advisers. And the fate of the global trading system seems to hang in the balance.

ALL BOMBAST. The fact is, they all are managed traders to some degree, and they all believe that an activist government should nurture industry at home and push for open markets abroad. No one counts himself or herself a free-trade purist. Indeed, in his days as Senate Finance Committee chairman, Bentsen joined with Representative Richard M. Gephardt (D-Mo.) in an effort to identify and punish what they saw as unfair Japanese trade practices.

The trouble isn't with the Clintones' philosophy, it's with their follow-through. Concedes one senior Adminis-



tration official: "You can't have a policy that's all bombast." But the political fusillade continues. On Apr. 30, Kantor leveled a broadside against Tokyo, threatening retaliation unless Japan opens its construction and architectural markets and buys U.S. supercomputers. And on May 5, he fired on the European Community, blasting subsidies for the Airbus manufacturing consortium. Says a U.S. trade hand: "Maybe we should just shut up for a while."

Instead of making noise, the Clintonites should decide what trade they really want to manage. That requires an inventory of America's most critical industries and promising export markets. Until now, though, the Administration has just followed through on old negotiations or applied grease to such squeaky wheels as the auto industry.

This approach generates cynicism among small and midsize companies, which see trade help going only to the big guys. "The last lobbyist in Mickey Kantor's office seems to be making the policy," says John Endean of the American Business Conference.

WRONG TURN. The President has also gotten off track with his obsession with the yen. A strong yen may or may not shrink the \$50 billion trade deficit with Japan. But if that country's economy doesn't bounce back soon, the U.S. trade deficit will likely grow even bigger in 1993—increasing pressure

for U.S. retaliation.

The imbalance is not the disease, it's a symptom. Almost 40% of the trade deficit could be wiped out if Japanese-owned manufacturers in the U.S. would buy American parts. And Clinton could achieve that with the North American Free Trade Agreement, which would require companies doing business here to buy two-thirds of their parts in North America.

Trade Ambassador Kantor, the former Los Angeles attorney, is doing what lawyers do: keeping trade partners off balance. That's fine as far as it goes. But it's time to ease up on the rhetoric and get on with the business of building new trade relationships for the America of the 21st century.

Harbrecht writes on trade policy for BUSINESS WEEK.



AN LCD CLEAN ROOM: CRITICS SAY ARPA'S REQUEST FOR PROPOSALS FAVORED OIS

INDUSTRIAL POLICY, OR INDUSTRIAL FOLLY?

ARPA's award for a flat-panel video screen factory is raising eyebrows

It seemed like a model of industrial policy—Clinton-style. On Apr. 30, tiny OIS Optical Imaging Systems Inc. was picked for a government award of up to \$50 million to help build the nation's first large U.S.-owned factory for advanced flat-panel screens. The Troy (Mich.) electronics company's selection by the Advanced Research Projects Agency—the Pentagon unit the Administration hopes will promote high-tech competitiveness—shows that “government and industry can work together to develop a critical technology,” says Representative Sander M. Levin (D-Mich.).

Critics contend, though, that the potential award has the scent of high-tech political pork. Instead of giving the U.S. flat-screen business a vital boost in its struggle with Japan, technology-watchers say the pending deal may hurt America's chances for catching up in a technology needed for everything from fighter-plane cockpits to wall-sized television screens. “It's a missed opportunity,” says an industry expert. Although the story isn't over, it offers a lesson in the potential pitfalls of government-directed technology policy.

CUSTOM JOB. No one doubts that flat-panel displays are a crucial technology for the Information Age. Sales were \$3.2 billion last year and are expected to hit \$9.4 billion by 2000 (chart). And since Japanese companies own more than 95% of the market, the U.S. faces a daunting challenge in getting back into the race. “It's going to take all the best resources

that the U.S. government and industry can muster,” says Peter Mills, chief executive of the U.S. Display Consortium, a 10-company, ARPA-funded effort to develop the basic materials and manufacturing processes needed for fabricating displays.

But is OIS, a subsidiary of Guardian Industries Corp. in Northville, Mich., the best choice for that job—or simply the company with the most friends in Washington? Last fall, a group of Michigan lawmakers slipped \$25 million into the fiscal 1993 defense budget to fund a flat-panel development effort. ARPA officials considered the congressional action misguided. The reason: The legislation was written to steer the money to the U.S. company most capable of supplying the military with the active-matrix liquid-crystal displays (LCDs) it wants—a description that fits OIS perfectly. Nonetheless, ARPA sent out a request for proposals, which critics say also favored OIS.

A group made up of AT&T, Xerox, and Standish Industries, a Wisconsin maker of LCDs, decided to bid despite OIS' advantage. “AT&T would like to get into the display business in the U.S.,” says Richard T. Archambault, director of American Telephone & Telegraph Co.'s global manufacturing and engineering. AT&T

needs thousands of flat-panel screens for such products as video phones.

AT&T and other computer makers have long faced a daunting dilemma: Do they cut a deal with Japanese suppliers or struggle to make the screens themselves? If Uncle Sam chipped in, the executive reason, the industry could put together a U.S. team and raise the \$300 million needed to start a world-class manufacturing effort. Toward that end, AT&T linked up with Standish and with Xerox, which has developed advanced active-matrix technology, to ask ARPA for \$1

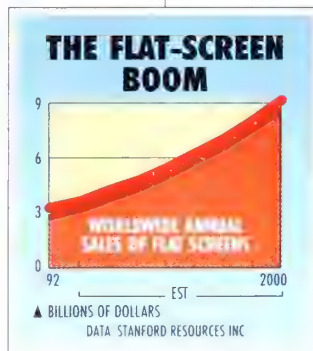
million over six years.

That put ARPA in a quandary. On OIS' plan met the request-for-proposal criteria, which included a proven ability to supply the military with active-matrix screens. But ARPA officials feared the handing the money to the small company, which plans to sell most of its displays to the Pentagon, would push AT&T to buy from Japan and doom chances of building U.S. flat-panel manufacturing **VAGUE ASSURANCES.** So, the agency now is playing coy. While it negotiates a final contract with OIS, ARPA is trying to keep the AT&T-Xerox-Standish group on board with vague assurances of more awards early this summer. “You haven't heard it all yet,” says a senior ARPA official.

The approach has left some in the industry fuming. This is the Clinton Administration's first big industrial policy effort, “and they're giving money to \$10 million company to take on Japan,” snorts one flat-panel expert. For its part, OIS insists that it won the award fairly and that it has as good a chance of jump starting the U.S. industry as the heavy hitters. “Thinking that only the big guys can do it is dangerous industrial policy,” says OIS Director Peter Young.

In fact, industrial policy opponents may wonder why AT&T and Xerox need money from the federal trough in the first place. The reason, explains Display Consortium's Mills, is that U.S. companies are too far behind Japan to catch up on their own. That may be debatable. But it is clear that a military display factory in Michigan isn't likely to worry Japan's flat-panel makers.

By John Carey in Washington



WHY PINSTripES DON'T SUIT THE CLOAK-AND-DAGGER CROWD

Intelligence sources allege that the French government has targeted a "hit list" of U.S. aerospace companies for industrial espionage. Capitol Hill lawmakers scream in outrage. And senior American intelligence officials respond by promising countermeasures, vowing, "no more Mr. Nice Guy." What's going on? To some, it's just another instance of "friendly spying." But to many business executives and political leaders, the April episode underscores the need for the Central Intelligence Agency to take on a controversial new mission: helping to keep Corporate America competitive.

It's a tantalizing idea. And some supporters of the intelligence community see it as a way to shield the CIA and the rest of the \$30 billion-a-year U.S. spy establishment from post-cold-war budget cuts. But before U.S. spies shed their trenchcoats or pinstripes, policymakers should consider this: There are serious limits to what the CIA and the rest of the cloak-and-dagger crowd can do for American business. Using the CIA to analyze economic data for

use by government officials is laudable. And it's appropriate for the CIA to thwart attempts by foreign governments to steal U.S. trade secrets. But asking the agency to ferret out foreign business secrets is neither realistic nor advisable.

Barriers. The CIA has been uncovering foreign industrial-espionage schemes for decades. Unfortunately, it hasn't often tipped off the target companies. There are reasons it has not. For one thing, there's the fear of jeopardizing intelligence sources. Custom and anti-trust law often make it taboo for the government and companies to cooperate. And in an industry with many players, it's difficult for the CIA to decide who should get the information it uncovers.

These barriers aren't insurmountable. The Administration's embrace of

industrial policy is making it easier for companies and the government to cooperate. And the critical industries most often targeted by foreign spy services tend to have few players. The agency passed on its tip about French efforts to tap into U.S. aerospace secrets, for instance, because the players were few and the information was fairly straightforward.

The White House could help combat industrial espionage by foreign agents by punishing the worst offenders. "If you really want to hurt the French,

U.S. government doesn't have a strategy to pinpoint key foreign technology.

Besides, it's not clear how helpful it would be to massively expand the CIA's ties to business. The agency has been sifting economic data for years—and its track record is mixed. In the 1980s, for instance, the agency was way ahead of the Treasury Dept. in predicting potential defaults of Third World debt, says a former Reagan Administration official. And it has done a good job of tracking the semiconductor, optoelectronics, and machine-tool industries of foreign competitors.

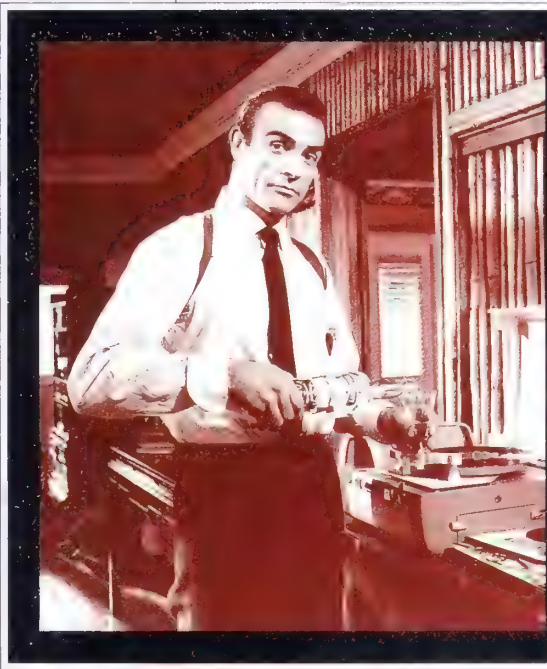
"If you wanted to know what was happening in the electronics industry in Japan, CIA was the agency to go to," says Clyde V. Prestowitz Jr., a former top Commerce Dept. official. He also found agency information useful during trade talks. "They tended to have pretty good knowledge of what the other side's negotiating position was," says Prestowitz.

Targets. But the CIA has also missed some big targets. For years, its legions of analysts woefully overestimated the Soviet Union's economic

might. And it wasn't much help to U.S. prosecutors investigating the billions in allegedly fraudulent bank loans to Iraq made by the Atlanta branch of Italy's Banca Nazionale del Lavoro.

In the end, any effort to put the CIA to work in an offensive way for American business would face one formidable hurdle: For all the clamor from some quarters on Capitol Hill about getting the CIA to spy for Corporate America, many legislators oppose the idea. And given the openness of the U.S. political system, it's a safe bet that any attempt at industrial spying wouldn't stay secret for long. If the U.S. is to blast its allies for their corporate-espionage forays, it will be devilishly hard to justify its own.

Borrus covers defense and national security for BUSINESS WEEK.



Could 007 aid IBM? In fact, the CIA has been sifting economic data for years—and its track record is mixed

you limit their access to technology in general and counterattack," says Michael Sekora, president of Technology Strategy Planning Inc. and a former Defense Intelligence Agency official. "You sever some U.S. research agreements with them and deny access to U.S. labs."

But the CIA shouldn't be in the business of spying on behalf of Corporate America. For one thing, there's the matter of culture. American intelligence agents, unlike their French or Israeli counterparts, simply have no tradition of spying for commercial advantage. What's more, industrial espionage isn't only a matter of finding out all there is to know about Japan's NEC Corp. or France's Alcatel. You have to know what you're looking for. Despite the new American enthusiasm for business-government partnerships, the



TART TALK: THE JUSTICE DEPT. MAY PRESS SUNKIST FOR UP TO \$20 MILLION IN FINES

SOMETHING SHADY AT SUNKIST?

The co-op fights charges that stronger members get sweeter deals

For most of its 100 years, Sunkist Growers Inc. has been father, mother, and cheerleader to citrus farmers in California and Arizona. The 6,500-member cooperative's marketing troops made Sunkist a household name. And in Washington, its powerful lobbyists preserved ancient marketing quotas that prop up citrus prices.

But the Justice Dept. wonders whether the Sherman Oaks (Calif.) co-op has abused its clout. This month, sources say, Justice is expected to press Sunkist and its packers to pay up to \$20 million in fines to settle charges that influential co-op members and Sunkist-licensed packinghouses exceeded sales quotas and that Sunkist covered up the cheating. Another lawsuit by a Sunkist board member seeks to topple key executives for aiding the scheme.

Sunkist officials deny wrongdoing and insist they won't settle. But the scandal has already driven a wedge between Sunkist's executives and many of its members. "Sunkist management isn't acting like lead-

ers," grouses Sunkist grower Robin Roberts, who says that co-op executives are concentrating on the legal battle instead of addressing the competitive threat posed by growers from Chile to Florida. "There needs to be a management turnover."

Sunkist's legal woes stem from Depression-era federal laws establishing quotas, called marketing orders, that govern citrus sales in California and Arizona. Industry panels set total weekly sales ceilings and divvy up allotments among growers, a practice economists criticize because it inflates consumer prices. Some growers, who would like to sell more, complain as well. But Sunkist

jealously defends the marketing order because they boost members' profits and preserve its clout. Sunkist donates the navel-orange industry panel for instance, because it accounts for 65% of the growers in the two states.

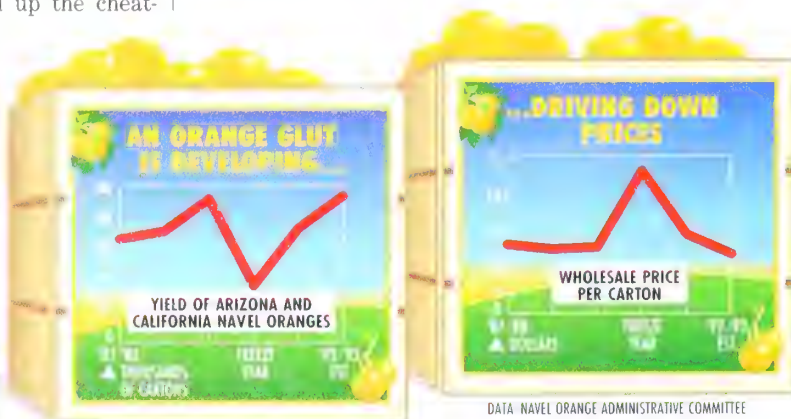
But the quotas—and Sunkist's power—may be unraveling. Since 1988, independent grower and packer Sequoia Orange Co. has filed 17 lawsuits against the co-op, alleging that Sunkist knew if member packinghouses exceeded quotas for both lemon and navel-orange shipments and altered its records to hide the overshipments. In August, Justice, which declined comment, took over the four lemon suits Sequoia filed.

NAVEL-GAZING. In December, the suspected widespread abuse of the quotas led then-Agriculture Secretary Edward R. Madigan to eliminate 1993 marketing orders for navel oranges. That was a sharp blow to Sunkist and its members. With the largest crop in history being harvested, the lack of quotas drove average wholesale prices down to \$7.04 a carton, the lowest since 1986. Without the caps, "Sunkist will fall apart," predicts James A. Moody, the attorney representing Sequoia in its lawsuits.

Sunkist's woes come just after it recorded a near all-time high of \$1 billion in 1992 revenues and \$739 million in profits distributed to its members. But that may not be enough to save Sunkist. President Russell L. Hanlin's job if allegations leveled in a lawsuit by Sunkist board member and grower Berne H. Evans III are true. The suit, filed in February, contends that Hanlin told Evans about quota violations by Sunkist-licensed packinghouses, some of which were partly owned by Sunkist board members. Evans' suit also charges that the board voted in January to settle some of the Sequoia cases—a move that would have bailed out some board members. Hanlin calls the lawsuit unfounded and denies settlement was discussed.

Whatever the outcome of the lawsuits, Sunkist's image has been battered, and its members say they're disgusted with the controversy. "They're tired of watching all the money being used for that as opposed to marketing fruit," says Joel A. Nelsen, president of California Citrus Mutual, an association of independent and Sunkist growers. For now, Mother Sunkist's mission is to find a way to keep its growers happy.

By Amy Barrett in Los Angeles, with Laura M. Holson in Fresno, Calif.



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THE DRUMMING OUT OF BILL FIFE

Why Giddings & Lewis' board soured on its one-man band

Since William J. Fife Jr. took over as chief executive of Giddings & Lewis Inc. in 1989, the machine-tool maker has compiled a record most companies would envy. Its stock has more than tripled (chart), and earnings have surged. And the gutsy 1991 acquisition of Cross & Trecker Corp., a troubled rival nearly twice its size, allowed it to seize the leadership of the U. S. industry. "You can't say enough about what a good job Fife has done with this company," says Keith N. Tufte, an analyst with IDS Financial Services Inc., a big G&L shareholder. Director Clyde H. Folley agrees that Fife did an especially fine job turning around C&T.

Make that G&L CEO Clyde Folley. In late April, in a move that stunned investors and sent Giddings' stock plunging 6¼ points in one day, to 20½, the 56-year-old Fife submitted his resignation. A company statement cited policy differences with the beefy, self-made executive, some financial transactions between Fife and the company, and "a communications lapse" between him "and the company's management." The company quickly named Folley, a board member and retired vice-chairman of Ingersoll-Rand Co., to take the company's helm until a new chief can be found.

FOLLEY'S TALLY. Many outsiders wonder, though, if there wasn't more behind Fife's departure. By themselves, the transactions that caused the board concern don't seem especially egregious. According to Giddings' proxy, last June Fife sold his Missouri condominium, which is used for company business, to Giddings without an independent appraisal of the price. In December, he and the company simultaneously bought adjoining land parcels outside the company's headquarters in Fond du Lac, Wis. And a company owned by Fife's brother was paid a \$105,577 commission to serve as auctioneer at a Solon (Ohio) plant G&L had closed. Other G&L directors won't talk, but Folley gripes that he did

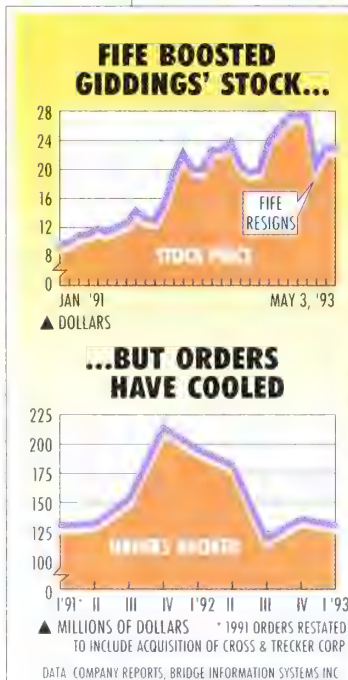
not know about the transactions until January, when they came out in proxy disclosures.

Advised by his lawyers not to talk, Fife isn't answering questions about his resignation. But one source close to him argues that he may have been done in at least in part by differences with the board over his interest in more drastic cost-cutting to keep earnings growing as orders have slackened off.

More than anything, though, Fife may

time steel-mill sweeper could be overwhelming. He didn't take vacations and frowned on employees who did. "He expected everyone else to spend 150 hours a week on the job," says Howard L. Riel Jr., president of Lynd-Farquhar Co., a Giddings distributor. And former managers say Fife sometimes publicly berated underlings. He also didn't do a lot of delegating. "All decisions had to be made at the top or near the top," says Folley.

DANGER SIGNS. Still, not everyone was glad to see Fife go. "Any time we needed help, Bill Fife was there," says Robert W. Gunn, president of G&L distributor Rudel Machinery Co. in Shelton, Conn. Filling his shoes won't be easy. In the first quarter, sales were flat at \$140 million, but the company produced an impressive 73% earnings gain, to \$10.2 million, by cutting overhead and produc-



A DIRECTOR SAYS FIFE KEPT THE BOARD IN THE DARK

have antagonized the board and his lieutenants with an attitude that G&L was his to run as he saw fit. According to Folley, directors didn't always get monthly financial statements on time; instead, they were sent "sporadically." There was no succession plan, and Folley says his requests that Fife hire a president went ignored.

There are also some hints that executives under Fife simply became fed up with his autocratic style. Although Folley says there was no management rebellion, some ex-managers suggested that a group of top managers gathered evidence on Fife's alleged shortcomings and presented it to Giddings' audit committee, leading to his resignation.

And to be sure, the hard-charging one-

tion costs. And Richard C. Kleinfeldt, the Giddings CFO who was named acting president, argues that G&L "is in very solid shape," with only minimal debt.

But there are also signs of weakening. After years of strong orders, for instance, Giddings has reported three successive quarters in which bookings dropped vs. the previous year.

Fife himself might argue that he has left a team in place that can keep Giddings on track. A year ago, when asked if he was too much of a one-man band, he replied: "It's the creativity of the people that's made the success of this company, not me." Now that he's out, it's up to the cadre he left behind to prove he was right.

By Zachary Schiller in Cleveland



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THE DRAG-RACING BOOKKEEPER

IBM's Jerry York, fresh from Chrysler, breaks the CFO mold

He isn't your average bean-counter. Chrysler Corp.'s Jerome B. York is a chief financial officer who loves big pickup trucks—especially drag-racing them. He gleefully recalls the time he pulled up at a stoplight in a prototype of the brawny new Dodge Ram pickup with a V10 engine next to the unsuspecting driver of a Z28 Camaro. The light turned green. "I buried him," York chortles. "He had no idea there was 450 foot-pounds of torque under the hood."

York, 54, thrives on revving up the engines at work, too. During 14 years at Chrysler, he says, just four were calm—and none recently. But with Chrysler's turnaround now seemingly assured, He was itching for a new challenge—and he just found a big one. On May 3, troubled IBM announced that it has hired York as its new CFO. He joins IBM's new Chief Executive Louis V. Gerstner Jr., another computer-industry neophyte. Their daunting task: to remake Big Blue.

BONING UP. IBM sorely needs the experience of someone who can cut costs, dump surplus assets, and trim the work force. York has experience at those tasks. In other areas, he's got a lot of boning up to do. York's only real experi-

ence with computers was running Chrysler's management information systems department. That's why, he says, he'll mix the obvious jobs of meeting IBMers and going over the company's books with a crash course in hardware and software. Even so, it's far from sure that he—or Gerstner—can learn fast enough to avoid making big mistakes.

In many ways, York will fit right in at buttoned-down IBM. His uniform at Chrysler was a conservative navy suit and a rep tie. And the wiry executive still retains the military bearing of his West Point education. It's only after work that he seems to relax. At Chrysler, he typically unwound on his farm north of Detroit where he raises sheep and chickens. "His idea of fun on a weekend is digging postholes," scoffs his friend Robert S. Miller Jr., Chrysler's former vice-chairman. York and his wife Eilene are looking for a rural spread in Connecticut.

At Big Blue, he may adapt faster than most people expect. One of Chrysler's most versatile executives, he has a pair of engineering degrees and began his career in that field at General Motors Corp. At one time or another, he has run its advanced manufacturing operations, headed its Dodge car and truck division, and served as controller, as well as CFO. He even ran Chrysler's Mexican unit in the early 1980s. "There's almost no con-



YORK: WATCH HIM SHOW HIS STUFF AS STOPLIGHTS CHANGE

stituency at IBM that Jerry cannot address, says Frederick W. Zuckerman, a former Chrysler treasurer who is now at RJR Nabisco Holdings Corp.

Perhaps best of all from IBM's standpoint, York has proved himself an epic penny pincher. He helped Chrysler cut more than \$4.2 billion from costs since 1989. It wasn't a slash and burn, either. His team shaved 11 days off the 25-day process of closing the company's books at the end of each quarter by emulating more efficient corporations. He also has sold \$3.8 billion worth of assets for the cash-strapped carmaker since late 1991 while wooing Wall Street into snapping up \$3.2 billion worth of its securities.

WIDE EYED. What will his strategy be at IBM? York isn't revealing much. About all he'll say is that some additional cost restructuring may be necessary.

For now, he and colleagues are still marveling at how fast fortunes change. "Who would have thought five years ago that IBM would be recruiting financial talent from Chrysler?" says Chrysler Chairman Robert J. Eaton. Who knows? Maybe in five years, another troubled company will be looking for a rescuer. If York does as well at IBM as he did at Chrysler, he'll be one hot candidate.

By Kathleen Kerwin in Detroit, with Bart Ziegler in New York

HARRY PEARCE FOR THE DEFENSE

The tough lawyer at the center of GM's pickup controversy

Back in the old days, before he became General Motors Corp.'s general legal counsel, Harry J. Pearce was known as a trial lawyer's trial lawyer. A tougher customer you've never met in a courtroom: dogged, meticulously prepared, a master of technical detail. A friend recalls that Pearce's cross-examination of one expert witness was so withering that the poor man began chewing his tie. Pearce still relishes the memory, too. "It was one of my better moments," he grins.

Lucky thing he hasn't forgotten.

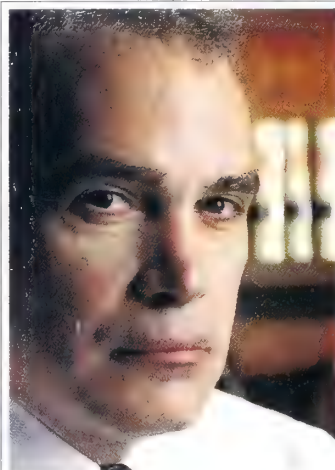
Pearce needs that kind of tenacity now. On Apr. 30, GM refused to comply with a government request to recall 4.7 million C/K pickup trucks made from 1973 to 1987. GM's hard-line stance sets the stage for the fiercest battle Pearce has faced yet: In the face of intense negative publicity, the 50-year-old North Dakota native hopes to convince the public and the feds that GM's trucks are as safe as any on the road.

Pearce faces a bruising fight. Consumer groups and plaintiffs charge that GM's trucks are "rolling firebombs," prone to lethal fires when struck broadside. Their campaign gained momentum in February, when an Atlanta jury awarded \$105 mil-

lion in damages to the family of a teenager killed in his 1985 GMC pickup. GM is challenging the award.

Just four days later, though, Pearce took the next round with a stunning knockout punch to NBC Inc. In a two-hour press conference, Pearce so compellingly argued that the network had rigged a fiery crash in a *Dateline NBC* episode that the network was forced to publicly apologize.

IMAGE PROBLEM. Now Pearce faces a dilemma. A recall could cost GM up to \$1 billion and might be seen by lawyers and juries in the dozens of liability cases as an admission of guilt. But Pearce knows that a long court battle—even if he wins—



CAN PEARCE RESIST GOVERNMENT EFFORTS TO RECALL GM TRUCKS?

A Clear View of China



This composite satellite photo of China reveals a clear view of the world's most populous country. At G.T. Global, we see something more: the world's largest emerging market striving to take its place in the global economy.

China's government is committed to economic reform, and the country's labor force is huge and inexpensive, with wage rates among the world's lowest. That compelling combination exerts a great attraction on foreign capital.

In fact, direct foreign investment in China in the first half of 1993 should approach \$15 billion—more than double, for example, the capital expected to flow into Mexico this year.

Foreign capital is building businesses in China as well as infrastructure projects—from airports to telephone systems—to make China more accessible to foreign companies. It's also helping China become one of the fastest growing economies in the world: industrial production grew 20% last year (versus 2% in the United States) while GDP continued to climb by nearly 10%.

Economic growth of that magnitude means that the Chinese people are enjoying a rising standard of living. In 1992, for example, they

spent 44% more on clothes and jewelry and 36% more on household appliances. Which implies opportunities for companies everywhere to penetrate the largest consumer market—1.2 billion people—in the world.

From Latin America to the Pacific Rim, emerging markets like China offer tremendous growth potential, with significant implications for local companies, of course, but also for global ones. Assessing those implications is what we do at G.T. Global, using our unique global perspective—our own clear view of the world.



G.T. GLOBAL

may damage GM's image even more. The National Highway Traffic Safety Administration would likely hold public hearings, with a parade of burn victims and grieving families indicting GM.

Pearce knows how hollow some courtroom victories can be. In 1984 and 1985, as a lawyer out of Bismarck, he used powerful technical arguments and a vivid video to convince a federal judge not to order the recall of GM X-car models such as the Chevy Citation—the only recall trial the feds ever lost. Nonetheless, Pearce says the bad publicity of the trial “killed the car.”

But backing down isn't Pearce's style, either. His father and grandfather were also lawyers, and he prefers hammering opponents with the cool, dispassionate

dissection of their arguments. In past cases, his technical spadework has usually carried the day—the kind he used when he recovered the GM pickups NBC had burned and proved that the fires had actually been set off by toy rockets. This technical bent is a holdover from his engineering training at the Air Force Academy—only color blindness kept him from becoming a pilot.

SCREAMING JUROR. Pearce established his style early on. In 1970, at his first civil trial, he successfully defended GM's Chevrolet Corvair, partly because a film Pearce had made reconstructing a Corvair accident was so vivid it drew a scream from one juror. After a string of other wins for GM in private practice, he joined the company's legal staff in 1985.

Once he moved up to head the legal department in 1987, he quickly reshaped it. He pushed out more than one-third of its 150 lawyers, replacing GM careerists with experienced talent from outside. He also pressured GM's nonstaff lawyers to reduce their fees. His star continues to rise. On top of being the company's top lawyer, he was named head of GM's Hughes and EDS divisions in November.

The question now: Will Pearce continue to fight the pickup recall—or cave in? Pearce hates to yield, but he hints he might have to if criticism of GM gets too intense. For now, he is amassing evidence to fight. If he can win, it will just be one more big victory for the legal ace from North Dakota.

By Kathleen Kerwin in Detroit

REGULATION

THE FDA'S WAR OF THE ROSE HIPS

Vitamin and diet-supplement makers are fighting limits on their claims

If you believe what you read, your local health-food store has a remedy for most of the ills plaguing humanity. A concoction of vitamins called Ultra Hair claims to darken graying temples, render thinning pates hirsute, and fix annoying split ends. Manhood Plus promises confidence during that next big date. And products with names such as Ageless Beauty and Runner's Edge pledge everything from more youthful skin to a speedier jogging pace—even though they're all made from concentrated wheat sprouts.

Sound like bunk? If so, such nostrums are highly profitable bunk. The dietary-supplements industry pulls in more than \$4 billion annually from the 70 million or so Americans who regularly down fistfuls of vitamins and supplements.

WIPEOUT? Now, the prospect of new regulations from the Food & Drug Administration has the industry reaching for its Ultra Mega Stress Formula (guaranteed “high performance nutrition for times of physical stress”). The agency has proposed rules that would stop almost all health claims made for such products. And the regulations may go into effect soon if the industry can't stop them.

That's why the vitamin companies and their supporters are waging all-out war to preserve their inalienable right to market whatever they like. “The FDA will wipe

out our entire industry if we let them,” says Stephen A. Levine, president of NutriCology, a California company now fighting the government over its product claims, which include the assertion that flaxseed oil can help cure alcoholism and that pine-bark extract can help alleviate varicose veins.

In this War of the Rose Hips, the industry has just fired the biggest shot so far. On Apr. 30, Senator Orrin G. Hatch (R-Utah), and Representative Bill Richardson (D-N.M.), in whose states many health-supplement companies are headquartered, announced a bill that would allow vitamin manufacturers to

make any claim they consider legitimate.

The bill has made the antivitamin camp hopping mad. Bruce Silverglade, legal director of the Center for Science in the Public Interest, gripes that the legislation is “nothing less than a snake oil promotion act.” But it's being taken seriously, because the nation's legions of vitamin buffs give the industry clout.

LOW PRIORITY. What's really at stake is the industry's freedom to make health claims for its products. Strictly read, federal law says any substance purporting to treat or cure disease is a drug and must therefore undergo extensive—and expensive—clinical trials. But the FDA has given supplements little enforcement priority. “We've only gone after the most serious toxicity and health fraud problems,” says Michael R. Taylor, deputy FDA commissioner for policy.

That laissez-faire attitude started to change in 1990, when Congress ordered up rules ending the proliferation of such often-misleading terms on food products as “lite” and “low-fat.” If foodmakers

can't say that carrots help ward off cancer, the FDA reasoned, supplements containing beta carotene (an “active ingredient” in carrots) shouldn't be marketed with such claims, either. Another bill now before Congress would beef up the

FDA's ability to punish violators with huge fines and product seizures.

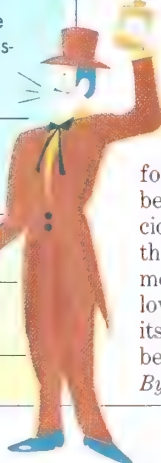
Hatch pushed through a one-year moratorium on the FDA's rules on food supplements last December. Now, Congress must decide. The choice is clear: trust the FDA to keep the supplement industry in check or allow the industry to regulate itself—and let the consumer beware.

By John Carey in Washington

SNAKE OIL OR HEALTH BOON?

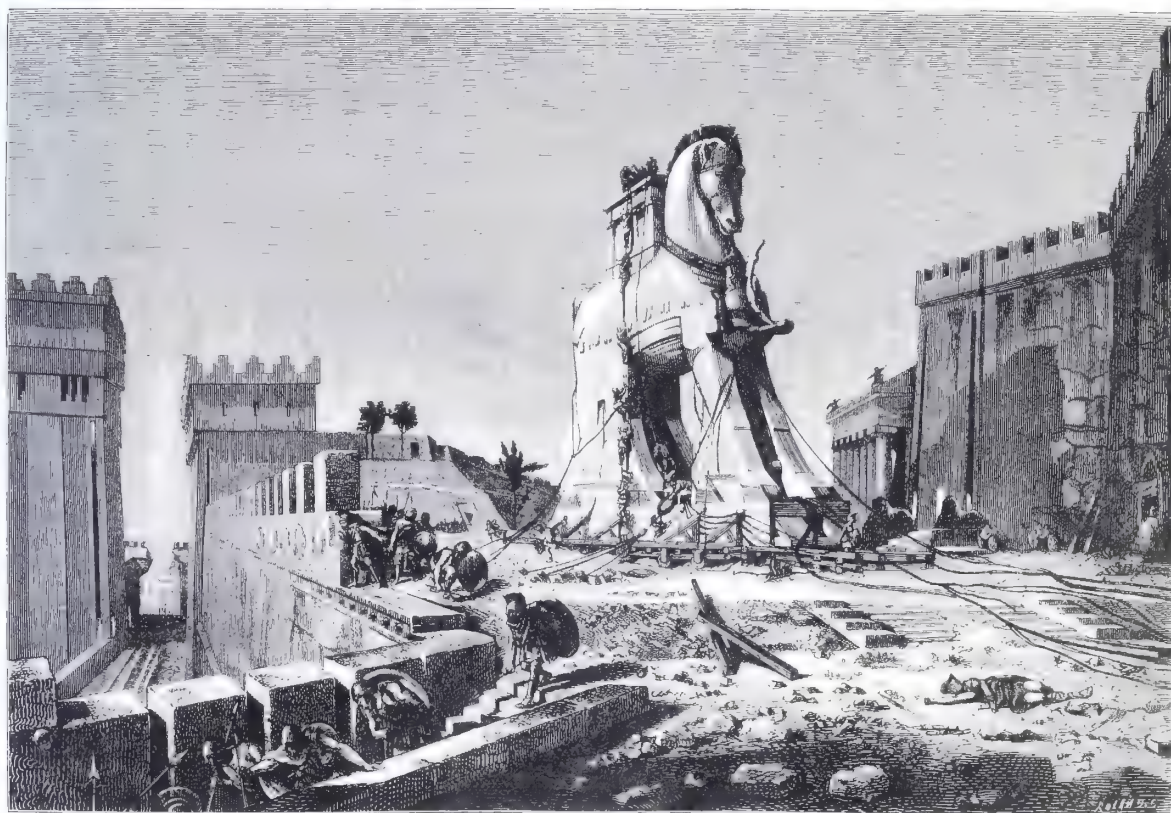
Product	Concerns over claims
IMMUNOTONIC AND IMMUNE PLUS	Names imply products are effective against AIDS or cancer
MEMBRANE COMPLEX	Billed as a treatment for multiple sclerosis, asthma, and kidney disorders; even said to improve kids' grades
ULTRA HAIR	Suggests that Vitamin A, C, and other nutrients can keep hair from thinning and graying
MANHOOD PLUS	Seems to promise enhanced sexual performance
NATURE'S BOUNTY MEMORY BOOSTER	Implies ability to improve memory

DATA: CENTER FOR SCIENCE IN THE PUBLIC INTEREST, FOOD & DRUG ADMINISTRATION



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FACING THE ISSUES THAT FACE OUR CUSTOMERS

EDITED BY JULIE TILSNER

BIOTECH ON THE MEND?

News that Genentech's heart drug TPA is slightly more effective than rival drugs dramatically boosted the biotech company's shares. Is it time for investors to climb back on the biotech bandwagon? Here are some best-selling drugs and a preview for what's in the pipeline:

BIOTECH BEST-SELLERS

Drug/ Company	1993 sales (est.) Millions
EPOGEN Amgen Red blood cell stimulator	\$560
NEUPOGEN Amgen White blood cell stimulator	\$55
PROTROPIN Genentech Human growth hormone	220
ACTIVASE Genentech TPA, a blood clot dissolver	210

DRUGS DUE SOON

1997 sales (est.)

BETASERON Chiron Multiple sclerosis treatment	\$200
PULMOZYME Genentech Cystic fibrosis treatment	\$100
ALBUNEX Molecular Biosystems Improves ultrasound readings	\$50
RESPIVIR MedImmune For infant viral pneumonia	\$20
DATA: VECTOR SECURITIES INTERNATIONAL INC.	

A CRACKDOWN ON BIASED LENDING

► More change from the top: Now, the Clinton Administration is getting tough on discriminatory lending by banks. On May 5, the Office of the Comptroller of the Currency, the primary regulator of banks, said it will for the first time use "testers"—OCC employees posing as young, mortgage-seeking couples—to sniff out discriminatory mortgage-lending practices. The crackdown comes in the wake of a study released last October by the Federal Reserve Bank of Boston. That probe found that mortgage applications from minorities were 60% more likely to be turned

down than those coming from whites with similar incomes. Some bankers say the tactic borders on entrapment.

CASTING A LINE FOR AMERICA ONLINE

► All the information money can buy? Microsoft's other founder, Paul Allen, may be trying to acquire America Online, the only publicly traded consumer computer service. The billionaire Allen, who also owns the Portland Trail Blazers, said in a Securities & Exchange Commission filing that he is considering a tender offer or other type of business combination with the \$26 million Vienna (Va.) company. He is already the largest shareholder, with just under 25%. Allen and America Online declined to comment, but the news sent America Online's stock up 4¼, to 30½, on May 3.

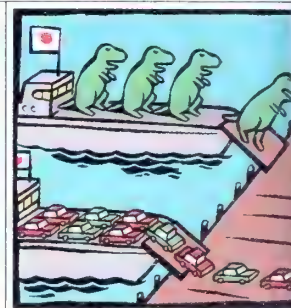
SOME BUBBLING AT CAMPBELL SOUP

► David Johnson is turning up the heat on his turnaround at Campbell Soup. On May 4 the CEO announced that his 70 top executives must boost their holdings in company stock. For Johnson that means raising his stake from about \$1.5 million to three times his base pay by

MY T-REX CAN LICK YOUR STEGOSAURUS

With Universal Pictures' new film *Jurassic Park* about to add fuel to the raging dinosaur craze, a beastly battle is breaking out between the small U.S. and Japanese companies that make lumbering, head-turning robots of prehistoric beasts for amusement parks and museums.

Tokyo-based K. K. Kokoro, wants to expand its U.S. sales by winning a prestigious account: a new dinosaur hall planned for 1995 by New York's American Museum of Natural History. Not to be outdone Dinamation International, based in Irvine, Calif., is also talking to the museum. Meanwhile, it has taken the battle to Japan by putting 43 of its dinosaurs on display in Tokyo this summer. Dinamation contends that its beasts will win out because they're more "paleontologically correct" than Kokoro's. Kokoro, of course, claims its beasts are more authentic. Who's right? Maybe only the fossil record will tell for sure.



yearend 1994. Some 30 other executives must hold at least 1,000 shares each. The soup-maker's stock rose ¼, to just over 38, on the news. The shares, though, are still trading well below their 52-week high of 45½. Campbell's board, which includes members of the company's founding family, said "mmmm-mmmm good" to the plan.

CONNECTICUT SLAMS ANDERSEN

► Connecticut real estate will be a real downer for Arthur Andersen, the nation's larg-

est accounting firm, during the next two years. On May 4, Andersen agreed to pay \$2.5 million to investors in bankrupt Colonial Realty for alleged improper ties to that company, including accepting gifts from Colonial management. As part of the settlement, it can't do real estate business in Connecticut for two years. It also must pay \$1 million for the cost of the investigation.

NORTHWEST AIR SEES CLEARER SKIES

► Is Northwest Airlines cleared for takeoff? The carrier finally may be close to a solution to its financial woes. On May 3, its two largest unions agreed to \$480 million in concessions over three years in exchange for 15% of the company's common equity and one seat each on its board, say informed sources. Now the troubled carrier hopes the Air Line Pilots Assn. will agree to 10% of the carrier's equity in exchange for some \$100 million in wage cuts. If that flies, Northwest could reach its target of \$300 million a year in savings, possibly allowing it to reschedule its debt and avoid bankruptcy.





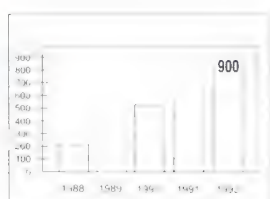
JANUARY 1, 1993

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JANUARY 1, 1993

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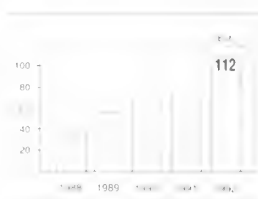
In Europe, not including France:



Number of Offices



Number of Employees



Assets (in billions of dollars)

Crédit Lyonnais is present in every European country, including:

- 254 offices in Spain • 201 in Germany • 133 in Italy • 97 in the Netherlands
- 45 in the United Kingdom • 37 in Belgium • 33 in Portugal. In addition, we have 2,600 offices in France and another 840 offices in other locations around the world. Crédit Lyonnais is truly a universal organization, having a total of 4,350 offices, 77,200 employees and global assets of (US\$) 352 billion.



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THE COMEBACK KID OR BACKLASH BILL?

With the Democrats' margin in the Senate too slender to protect Bill Clinton's agenda from Republican filibusters, the President needs every ally he can get. So it's hardly surprising that Clinton has been invited to Texas to stump for appointed Democratic Senator Bob Krueger, the underdog in a runoff to fill Treasury Secretary Lloyd Bentsen's old seat. Trouble is, it was GOP leaders, not Texas Democrats, who issued the invite. Republican Senator Phil Gramm even offered to pay his way—a commentary on the President's dismal standing in the Lone Star State.

In a recent Texas Poll, only 37% of those questioned rated the President's performance "good" or "excellent." And unfortunately for Clinton, his setbacks on Capitol Hill are being translated into trouble for Democratic office seekers. While polls show that the public approves of Clinton's message of change, voters don't like proposed tax hikes. In response, Democratic candidates are distancing themselves from the man who topped their ticket last fall. **‘CLEAR MESSAGE.’** The campaign strategies, in turn, are causing shudders in Congress, where Clinton's tax proposals, spending cuts, and long-term "investment" plans face crucial tests. "If he's losing elections, or perceived to be losing elections, he loses all his pump," worries a House Democratic aide. In Wisconsin, for example, Democrat Peter W. Barca eked out a narrow victory in a May 4 special election to fill the seat of Defense Secretary Les Aspin. To win, Barca flaunted his opposition to the President's proposed energy tax, the North American Free Trade Agreement, and higher taxes on Social Security benefits. "The people in the Democratic Party who have to face the voters are running from Clinton like scalded dogs," gloats Republican Party Chairman Haley Barbour. "It's a very clear message that the President's plans are unpopular."

Texas' May 1 special Senate election was an even clearer case. Republicans shared 58% of the vote in a free-for-all primary. Krueger—despite calculated opposition to Clinton's tax hikes and defense cuts—got just 29% of the total. The Shakespeare-prof-turned-pol now faces an uphill struggle in an expected June 5 runoff against Republican State Treasurer Kay Bailey Hutchison, who is eager to make the vote a referendum on Clinton. "This is going to be the first test of what people think of the Bill Clinton economic plan," she declares.

Of course, no local election is a national referendum, and Krueger has plenty of homegrown woes. He shared the ballot with Democratic Governor Ann W. Richards' ill-fated plan to

shift revenues from rich school districts to poorer ones. And Krueger's erudition can make him seem, well, un-Texan. "Every time he quotes Shakespeare, I love it," says state GOP Chairman Fred Meyer. "I have a rule: If you don't quote Sam Houston or Harry Truman, don't quote anybody."

POPULIST THEMES. The Clintonites think Texas and Wisconsin are isolated cases. "From what we hear, the rest of the country is dying for him to come in and campaign," says Democratic National Committee Political Director Joan Baggett. And Democrats hope to learn from their early mistakes. In the Texas runoff, Krueger is sounding populist themes, attacking Hutchison as a "country club candidate" in thrall to Wall Street. He blasts Hutchison as "part of the forces of filibuster and not the forces of change" and emphasizes such popular Clinton initiatives as abortion rights, Head Start, and immunization.

White House operatives say they'll let candidates run away from Clinton if absolutely necessary. They have little choice. If there are more dismal showings in races such as Krueger's, the President could find the going tough indeed.

By Richard S. Dunham



KRUEGER: DISTANCING HIMSELF FROM CLINTON

CAPITAL WRAPUP

THE CABINET

Former San Antonio Mayor Henry G. Cisneros is the latest politician to discover that being a second-string Cabinet member isn't much fun. Like his predecessor at the Housing & Urban Development Dept., Jack F. Kemp, Cisneros is an energetic booster of an aggressive new urban policy. Also like Kemp, he's having a hard time getting his President's attention. Cisneros' ambitious enterprise-zone plan was reduced to a shadow of itself in the proposal issued by the White House on May 4. He got nowhere with pleas that Bill Clinton fight harder to save community-development block grants from

the Republican assault on the Administration's stimulus plans. In recent weeks, Cisneros has been asking mayors, municipal-bond underwriters, and other urban interest groups to lobby the White House on his behalf.

TERM LIMITS

It sometimes takes a bit of shamelessness to be a successful politician. But Senator Strom Thurmond (R-S.C.) may take the prize by coming out in support of term limits for members of Congress. Thurmond, 90, is the senior member of the Senate, where he has served since 1954. Other veterans signing up with U.S. Term Limits, an advocacy group, include Senators Bob

Dole (R-Kan.) and Jesse Helms (R-N.C.) and Representatives Glenn English (D-Okla.) and Dan Glickman (D-Kan.). The four have a total of 78 years of service.

PEOPLE

The White House is close to filling two key vacancies. Washington lawyer Ricki R. Tigert, a former Federal Reserve Board attorney, appears to have edged out former Connecticut Treasurer Francisco L. Borges to become chairman of the Federal Deposit Insurance Corp. And David R. Hinson, the former chief executive of Midway Airlines Inc., is in line to become Federal Aviation Administrator.

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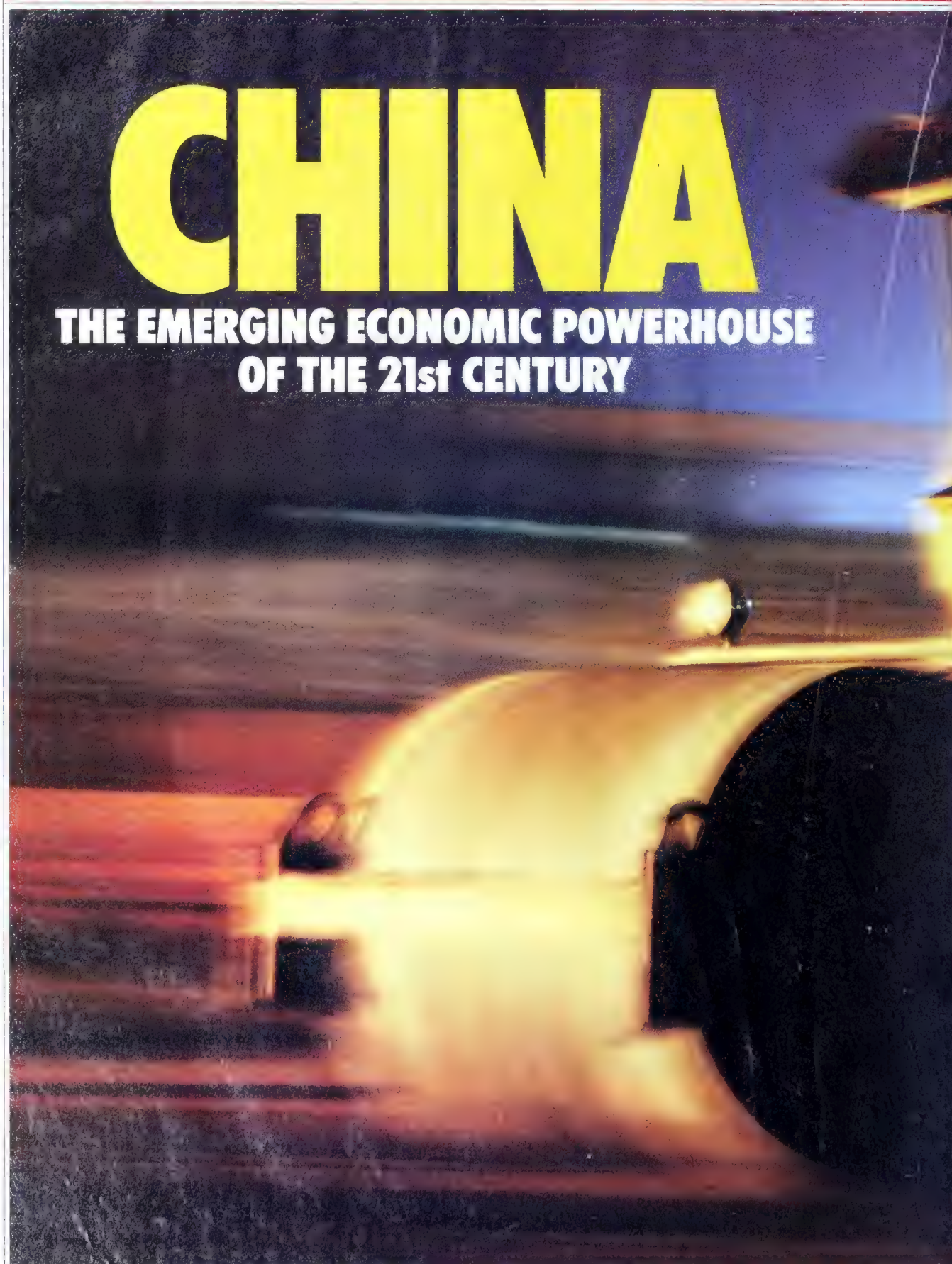
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CHINA

**THE EMERGING ECONOMIC POWERHOUSE
OF THE 21st CENTURY**





★
THE CHINESE ARE
RUSHING TOWARD
PROSPERITY—
AND THERE SEEMS
NO STOPPING
THEIR MOMENTUM

To get a glimpse of China's economic boom, drive an hour north from the Hong Kong border and turn left at the giant, gleaming steel archway. You've entered Changan Inc., population 30,000. Cruise the palm-lined avenues and you'll see a gleaming new cultural center, office towers, and a sprawling public recreation complex with an Olympic-size pool and a golf course. More than 100 two-story white townhouses with tiled roofs, sold for \$100,000, Hong Kong families, stand in neat rows with scores more under construction. A decade ago, before the vil-

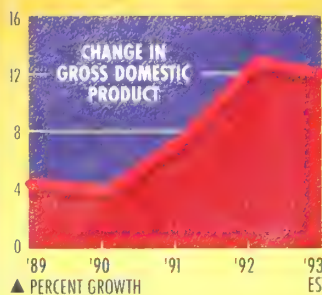
lage's leaders traded their Mao jackets for Italian-styled suits, Changan was so poor that many of its people emigrated to Hong Kong. Now, the village owns nearly 700 factories employing 100,000 workers from other parts of China. Changan will bring in a cool \$40 million this year renting the plants to foreign joint ventures making everything from Barbie dolls to precision tools. With four-lane expressways and an entire new downtown in the works, says Changan official Guo Pinji, "we'll be a city of more than 1 million by the year 2010."

No wonder Changan is bragging. It's caught up in China's latest and perhaps most enduring campaign. From the upscale cafes in the southern city of Guangzhou to the gritty steel

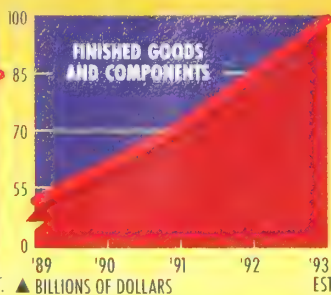
mills of the industrial north, China is in a dash for prosperity. Even after Deng Xiaoping passes from the scene, there will be no stopping the momentum. With the economy booming at a 12% annual clip and hitting 14% for the first quarter of 1993, China's emergence is already shaking the world. Though these rates cannot be sustained, the signs are that China's growth will continue at an impressive clip despite serious obstacles such as transportation bottlenecks, spiraling inflation, widening class differences, crime, and corruption.

The magnitude of change is breathtaking. China's economic

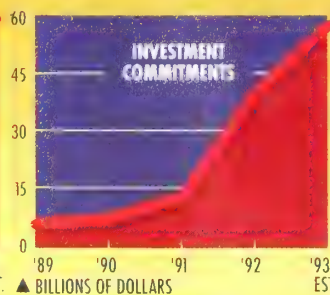
CHINA'S GROWTH IS SURGING...



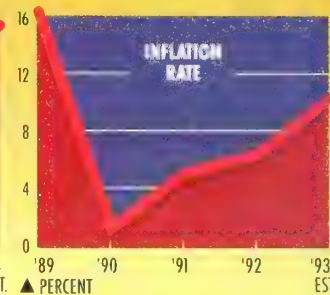
...EXPORTS ARE EXPLODING...



...FOREIGN INVESTMENT IS POURING IN...



...BUT INFLATION IS REVIVING



DATA: ASIAN DEVELOPMENT BANK, U.S.-CHINA BUSINESS COUNCIL, BUSINESS WEEK

boom, once concentrated in the coastal regions, is now flowing inland to the massive population centers along the Yangtze River and to the vast hinterland. At the national level, powerful ministries are being stripped of their monopolies in strategic industries and forced to compete in the marketplace. At the same time, state and local enterprises are busy transforming themselves into Chinese-style capitalist giants. And some cities are even selling hundreds of their factories to foreigners.

FANTASY MARKET. Smelling opportunity, foreign investors from U.S. multinationals to overseas Chinese billionaires are tripping over one another to get into a market about which they have long fantasized. Talk of China becoming a 21st century powerhouse, dismissed as naive after the Tiananmen Square massacre in 1989, is credible again. "The only thing comparable to what's going on in China is the reconstruction of postwar Europe under the Marshall Plan," says Rajendra

Nath, Beijing general manager for GE Aircraft Engines.

The implications for a country of 1.2 billion people are awesome. Even after its overheated growth subsides and some speculative bubbles are popped, many economists predict China will sustain an average growth rate of at least 7% over the next 10 years. That means its gross domestic product, unofficially estimated at as high as \$1.2 trillion, could more than double by early next century, firmly establishing China as one of the world's top five economic powers. While its per capita income would remain miserly compared with its developed Asian neighbors, the size of its economy guarantees that China's emergence will affect global trade, investment, and raw material flows.

This new industrial giant will be the world's largest manufacturing zone, the largest market for such key industries as telecommunications and aerospace, and one of the largest users of capital.

Over coming years, manufacturing will increasingly move toward the pennies an-hour wages in once-remote provinces while coastal cities such as Guangzhou and Shanghai will become the brain centers, providing management and services. Although China will be an economic superpower in size, it won't compete as directly with U.S. or European technology-based industries as Japan does. Instead, its strengths will be mostly light manufacturing and low-tech industries. And unlike the *keiretsu* of Japan, new Chinese corporations will be more open to foreign participation.

There are important caveats: China is not wholeheartedly embracing Western-style capitalism. The Chinese economy is assuming a structure the modern world hasn't seen before. It is a distinctly Chinese model, a mixed economy in which the leadership is determined to keep the means of production in the public sector. Yes, control of the economy is shifting away from creaky enterprises supported by Beijing, but much of the slack is being taken up by quasi-public companies operated by provinces and towns such as Changan. On the surface, it appears that a brand new class of managers is emerging, but though members of this elite prefer cognac and drive Mercedes, many remain card-carrying party members.

TIGHT GRIP? That's why no one expects Beijing to suddenly embrace the West's vision of human rights and political freedom. Some China-watchers argue that the proliferation of satellite dishes carrying TV programs from Hong Kong and fax machines plugged into the world's

capitals threaten Communist Party rule. But Deng is bent on using China's rapid economic strides as a way of maintaining the party's grip, not loosening it. He's betting the Chinese will accept party



★
A BUDDING
CHINESE MIDDLE
CLASS IS ABLE TO
AFFORD LUXURIES
SUCH AS COLOR TVs
AND MAKEUP

le if their lives are improving economically. If he's right, the regime's repressive tools, ranging from its vast propaganda machine to its prison labor camps, will remain. Concern over that prison labor system is why one U.S. company, Levi Strauss & Co., on May 3 announced is severing its China ties. All of which greatly complicates the debate about what constitutes "human rights" in China.

Just as China's economic and political model could be at odds with the West's, it might sharply increased Chinese influence over East Asia challenge U.S. and Japanese interests. Because some of China's new wealth is being used to build the People's Liberation Army, strategic thinkers worry about Beijing projecting military power throughout the region. Even as President Clinton faces a June 3 deadline on renewing China's most-favored-nation status, a more confident and powerful Middle Kingdom is less and less inclined to heed the admonishments of foreigners who believe they can "manage" China (page 69).

DAMAGE CONTROL. How is China staging its march for growth in the face of the world's horror over Tiananmen? It's true that newly emboldened conservatives grabbed control of the government following the tragedy and tried to slam the brakes on reform. Some U.S. investors took a deep breath and froze. But neither reaction damaged the underlying economy. Investors from Hong Kong and Taiwan charged into China even in Tiananmen's aftermath. The Asian capital meant that Western recriminations had little impact. And this foreign capital helped create enough liquidity in China's financial system that provinces such as Guangdong and Fujian were able to continue their pursuit of wealth.

At the same time, Deng's reformers have been able to push two main pillars of economic change: an unprecedented degree of economic decentralization and the spread of market reforms from coastal areas to the interior. Suddenly, China looks like a loose federation of regional economies, with provincial and city governments boasting increasing clout. Regional authorities are flexing their muscles: Development zones are popping up across Jiangsu province near Shanghai, despite the central government's efforts to halt them. Beijing fears that the wild construction binge by local governments, whose investments soared by 70% last year, is contributing to runaway inflation and waste. Businesses owned by local governments in Guangdong brazenly circumvent Beijing's tax collectors by setting up front companies in Hong Kong. These "false foreign devils" then enjoy all the tax breaks afforded genuine foreign investors.

Companies controlled at the local and regional levels are striking at the very heart of the old Beijing-dominated system. Consider the case of two refrigerator companies. In the southern city of Rongqi, the Rongsheng Refrigerator Factory is a model of the locally owned factories that are quietly reaching Western standards of quality. As a result, Rongsheng's 3,500 workers are struggling to fill orders for China's most popular brand. The glistening complex, which has a modern steel sculpture in front, a recreation complex nearby, and three Mercedes among the cars in the parking lot, expects to make a \$32 million profit this year.

In stark contrast, the nationally owned Shenyang Medical Instrument Factory in Liaoning province has a warehouse full of its Great Wall refrigerators awaiting repairs. While 300 of its 2,400 workers have no jobs, they stay on the payroll. That has helped the factory lose \$5.3 million in the past two years. "We should learn from this lesson," says Lu Zizhun, the plant's Communist Party secretary. The factory has given up trying to compete with Rongsheng, turning to new products such as pruning shears and X-ray equipment.

Overall, China is letting regional and locally owned enterprises thrive on their own and allowing its centrally controlled sector to wither much faster than either Russia or former Soviet satellites did. Regional and locally run enterprises now account for a third of all economic activity, while the share for centrally run ministries has dwindled to half and will continue shrinking. Private enterprise, as the West understands it, will become more important but is not likely to eclipse these quasi-public enterprises.

PLENTY OF CASH. That's not to say that Beijing-controlled companies can't be competitive. Some of the most promising state enterprises are getting sweeping authority from the central government to take over weak competitors and to enter new businesses. One favored company is Beijing-based Shougang Corp. The \$1.8 billion iron and steel maker is doubling its steel capacity to 10 million tons by 1995, and it's on an acquisition binge. In the past six months, it paid \$120 million for an iron mine in Peru and bought for an undisclosed sum a Fontana (Calif.) steel plant that it plans to

BUILDING THE FUTURE

Major infrastructure projects under way or in planning

0 MILES 200

BEIJING-KOWLOON RAILWAY This \$3.3 billion project involves building 549 bridges and has 200,000 workers

HENAN POWER PLANT Province and Wing-Merrill of U.S. recently clinched a \$2 billion deal

PUDONG An industrial and commercial zone, including an airport and subway, has attracted \$10 billion in investments

NANNING KUNMING RAILWAY This \$1.1 billion line will help develop the coal-mining industry

THREE GORGES DAM The \$10 billion project could boost shipping but irreparably damage the environment

GUANGZHOU-SHENZHEN EXPRESSWAY A \$1.2 billion highway will speed travel within southern China

SOURCE: BUSINESS WEEK



★ PEASANTS SEARCHING FOR JOBS FAR FROM THEIR HOMES ARE A GROWING SOCIAL PROBLEM

grip on politics, it is nurturing an unprecedented degree of economic diversity. Instead of having a market guaranteed by central planners, many Beijing-controlled enterprises have to compete with local ones as well as with foreign multinationals. In the past, foreign companies often had to accept a partner dictated by Beijing. Now, foreign manufacturers of everything from mobile phones to giant power generators can go from province to province in search of the best deal. Johnson & Johnson, which has a major pharmaceuticals joint venture in the city of Xian, is now looking for more opportunities. "With the government decentralizing, it's getting easier to cut your own deals," says Jerry R. Norskog, president of the Xian joint venture.

ON STRIKE. Beijing also is allowing market forces, as opposed to edicts, to drive the spread of prosperity from wealthy coastal provinces into the nation's much poorer interior. While the rest of China was still in the grip of Beijing's central planners in the early 1980s, Guangdong and Fujian, in particular, had high degrees of autonomy. Workers there provided a cheap labor pool for foreign

dismantle and ship home. Shougang also became the first industrial group in China to launch its own commercial bank, with capital of \$172 million.

The industrial giant is also trying to move into high tech: It has cut a \$200 million deal with Japan's NEC Corp. to make semiconductors. "We are a first-class transnational company," suggests Shougang Vice-President Pan Huayuan.

That's yet to be proved, especially for a company that still makes an astounding array of products solely for the domestic market—everything from plastic Christmas trees to assault rifles. But the fact that these new Chinese managers even aspire to international stature speaks volumes about the competitive forces that have been unleashed.

So even though China keeps a tight

MOTOROLA IN CHINA: A GREAT LEAP FORWARD

Taking a cautious approach, Motorola last year put together a make-shift plant in the northern port city of Tianjin to crank out its first made-in-China paging devices. The company figured local demand would be small and that it would have to find export markets to make the investment pay off.

Wrong. Motorola Inc. now sells the entire weekly output of 10,000 units in China, where a pager with one year of service retails for \$200. Indeed, annual demand for pagers in China has zoomed from 1 million in 1991 to a projected 4 million this year. "We no longer talk of the 'potential' Chinese market," says Lai Chi-sun, general manager of Motorola-China Ltd. "That market has arrived."

Convinced the boom is for real, Motorola is laying the groundwork for what will be Corporate America's biggest manufacturing venture in China. By yearend, it will complete a \$120 million first-phase plant in the Tianjin Economic & Technology Development Area to make pagers, simple integrated circuits, and cellular phones. A second-phase plant, which

could include automotive electronics, advanced microprocessors, and walkie-talkie systems, will come on-line in three more years. Motorola is also looking at building a plant to fabricate silicon wafers. Overall, it could spend more than \$400 million.

TECH GAP. Other international biggies such as Samsung, Eastman Kodak, and Heinz are also moving into Tianjin, which boasts savvy officials and good infrastructure. But the Motorola venture symbolizes a huge leap in commitment to China. It goes well beyond setting up factories to take advantage of low-cost labor or get a foot in China's vast market. Motorola executives expect that, over time, Chinese technicians will play a big global role in the design and engineering of products, much as locals already do at the company's plants in Singapore and Malaysia.

Alcatel, Siemens, and Philips are now moving in the same direction, and in February, AT&T signed a sweeping accord with the government that could lead to a similarly deep involvement in everything

from switching systems to semiconductors. "There is a conceptual chasm among major multinationals," says Frisbie, director of the U.S.-China Business Council office in Beijing. "Now we are looking at an integrated approach that involves manufacturing, sales, research and development."

Of course, with China's high inflation and political uncertainties, Motorola knows the ride won't be smooth. The company has been selling telecommunications gear and semiconductors in the country since 1984 and now has 600 employees there. One big problem will be finding enough engineers to carry out its ambitious agenda. Of the 1,200 workers to be hired over the next two years, Motorola will need 250 engineers. China has hundreds of thousands of engineers because higher education from 1960 to 1976 was devastated by the Cultural Revolution, most in their mid-thirties and forties lack the training to adapt to modern high-tech plant.

Another shortcoming of Chinese academics is that students don't learn

anufacturers. But today, e two provinces have a ridding middle class that n afford air conditioners d color TVs, and it's hard find local residents willing accept jobs paying \$54 a onth making sneakers. In et, some 300 workers at a non Inc. compact-camera ctory in the Guangdong y of Zhuhai went on strike ar. 30 for three days, de- anding 30% to 50% wage in- eases to make up for sky- rocketing prices. Canon tled the strike by offering ises of 7.8% to 13.6%, de- ending on seniority.

Those rapidly rising wages e driving both Chinese and reign enterprises to tap orkers from the interior. eading the way are savvy aiwanese and Hong Kong mpanies. Yue Yuen Indus- ial (Holdings) Ltd., a \$200 million Tai- an and Hong Kong manufacturer of ike, Reebok, and other athletic shoes, ow recruits workers for its three uangdong factories from outside the rovince. Says Steve Li, Yue Yuen presi- ent: "We decided to hire workers from andland provinces because there's less anover."

And new investment is flowing deeper into the mainland. For instance, Tai-

n principles into in- ve new products. e knowledge of ba- ence is very strong, ey don't know how pply it," says Ko t-wen, Motorola's nnel director in n.

S. Since Motorola recruit heavily at 's colleges, it's ng an inside track. mpany is provid- andreds of scholar- to students and fac- a eight universities. ola also is donating ater equipment and so that schools can chip-design labora-

And it plans to offer working in- ips to college students and dis- managers to Chinese high schools plain uses of technology.

the same time, Motorola is spend- millions on in-house training pros- , preparing for the startup of its n centers for integrated circuits and munication products in China. It ty is sending 30 engineering re-

THE FOREIGNERS CHARGING IN

A Sampling of Recent Investment and Trade Deals with China

TELECOMMUNICATIONS

AT&T has reached a \$1 billion agreement to manufacture switches, wireless phones, and integrated circuits. NEC is building a micro-wave telecommunications plant.

AUTOS

The U.S. Big Three sold \$160 million worth to a Chinese buying delegation in April. Nissan Motor is investing in a \$44 million factory making pickup trucks. Volkswagen is spending \$315 million to double capacity at its joint venture near Shanghai.

ENERGY

ABB Asea Brown Boveri has a \$400 million slice of a coal-fired power station being built in Guangdong. Total of France has a 20% share in a \$450 million refinery that will open next year.

CONSTRUCTION

Hong Kong's Wharf (Holdings) Ltd. plans a multimillion-dollar container port in Wuhan. Hong Kong magnate Gordon Wu is completing a \$1.2-billion superhighway in Guangdong.

DATA BUSINESS WEEK

wan's President Enterprises Corp. has four factories in China, including a toma-to processing plant in the remote western region of Xinjiang. In March, local officials in the northeastern city of Dalian sold off controlling interests in 101 local companies to China Strategic Investment, an industrial venture capital group in Hong Kong.

The main obstacle keeping prosperity from traveling even faster to the inland

River to the central city of Wuhan. That's where Hong Kong's Wharf (Holdings) Ltd. has begun building a multi-billion-dollar container port. Further up the Yangtze, work is scheduled to begin on a \$10 billion dam that could boost shipping traffic to the interior metropolis of Chongqing tenfold.

The government is also enlisting outside help for other infrastructure projects. In a few months, Hong Kong mag-

regions is China's decaying infrastructure. In a building frenzy, Beijing plans to pump billions into major transportation, power, and telecommunications projects over the next decade (chart, page 57). Much of it is going to Shanghai. The central and city governments are spending \$18 billion on bridges, power plants, and a huge industrial and commercial zone in the Pudong district, east of the city. Pudong's rice fields are gone, replaced by a mammoth, dusty construction site where the foundation is being laid for China's most ambitious projects. A particularly impressive one: the Yangpu Bridge, scheduled to be completed by yearend.

FAST LANE. From Shanghai, future development is expected to spread up the Yangtze



★
"WE NO LONGER TALK
OF THE "POTENTIAL"
CHINESE MARKET.
THAT MARKET HAS
ARRIVED"

managers for its future semiconductor plant, already have visited almost every Motorola chip plant in the world.

So far, Motorola says it's delighted with its Tianjin venture. In terms of both quality and productivity, officials say, the paging devices as-

sembled in Tianjin already are close to the standards of its Singapore plant, where Motorola designs its pagers. "We could be exporting them competitively right now," says Tan Yik Fay, manager of the Tianjin paging factory. But with China's voracious demand, that's one idea that may have to wait a while longer.

By Pete Engardio in Tianjin

recruits to its facilities in the U.S., Singapore, and Hong Kong. And for the Chinese executives who will eventually head the Tianjin complex, Motorola has a career management track called "Cadres 2000." Each year, it plans to put up to 20 top recruits into leadership training programs and rotate them through Motorola operations worldwide. The first batch of seven cadres, hired in 1989 to be middle

Special Report

name Gordon Wu, managing director of Hopewell Holdings Ltd., will finish building a privately financed, \$1.2 billion, six-lane toll road, bringing high-speed travel to southern China for the first time. New World Development Co., a Hong Kong property developer, is investing \$86 million in a highway in Wuhan, linking the city's new international airport to the downtown area.

Peasants and workers are sure to pay a big price for this prosperity drive. The Yangtze River dam, for example, will uproot more than a million people, flood one of China's most scenic areas, and cause other damage to the environment. Elsewhere, peasants are squeezed by the rising costs of fuel, fertilizer, and other raw materials as well as by arbitrary taxes levied by local authorities.

Millions of farmers are leaving rural areas and flowing into the big cities in search of jobs. With their sun-baked skin, calloused hands, and modest clothes, these *mang liu*, or blind migrants, are easy to spot among the more sophisticated residents of China's cities. *Mang liu* have been crowding into Guangzhou's main railway station for years, and now they are turning up in

LOOK, UP IN THE SKY—A SWARM OF CHINESE AIRLINES

Among China's carriers, Shanghai Airlines stands out. Run by scrappy entrepreneurs who first set up shop in a broken-down bus and later in an old chicken coop, Shanghai now boasts three Boeing 737s with leather seats, video screens, smiling flight attendants, and last year, \$58 million in revenues. "If our people never smile, we fire them," says Sun Zhongli, a Shanghai vice-president. In a country where computerized ticketing is nonexistent, only this city-backed airline allows reservations by phone—and delivers the tickets.

As passenger traffic grows by 25% a year, China needs more airline capacity badly. At last count, there were 35 carriers, with nine more pending approval. The top companies are rushing to order aircraft and overhaul antiquated ground facilities. By the year 2000, some 500 new or newly renovated airports will be operating. "The scramble is on,"

says Robert Christensen, a consultant with Fleishman-Hillard Scotchbrook Asia.

BIG ORDERS. The charged climate means big business for China's large carriers and their Western suppliers. Take China Southern Airlines, one of seven national lines once controlled by the Civil Aviation Administration of China (CAAC). Now, CAAC operates like a regulatory agency, and its carriers act as independents. China Southern handled more than 8 million passengers in 1992. It recently ordered six Boeing 777s, in addition to the 14 737s and four 757s arriving this year. Boeing expects plenty more big orders: It figures China will buy \$40 billion in

commercial jets from the U.S. and Western Europe over the next 20 years. That means China will rank second only to Japan, the world's largest export market for Boeing, Airbus, and McDonnell Douglas.

Just as the different Chinese airlines prefer different airframe suppliers, so too are they beginning to compete with each other. China Eastern Airlines, the relatively well-run CAAC carrier in Shanghai, is already looking over its

ers are still run by old-time party cadres. Although many city officials launch airlines to profit from lucrative landing fees, they have scant aviation experience. Sichuan Airlines, for example, leased some Russian Tu-154 aircraft last year and has since been flying near 100% capacity. Even rural villages are rolling out their tarmacs. Dongmotang—known for its chicken farms—is the first hamlet to set up an air fleet with three leased Boeing 737s.

The explosion in growth is prompting serious concerns about airline safety. "A child who is not ready to walk is attempting to run," says Lu Ruiling, director of CAAC's International Affairs Dept. Recently, CAAC raised the hurdle for a startup, which must now have at least three aircraft, \$14 million in capital, and proper ground facilities.

But does CAAC have the staff to enforce these rules and other safety guidelines? Not yet, anyway. For

now, inexperienced pilots are often flying overtime, and many crews know nothing about safety. In April, two people were killed and more than 150 hurt when a China Eastern flight to Los Angeles hit turbulence. In a four-month period last year, five accidents claimed nearly 300 lives.

So the birth of the Chinese airline industry will be explosive and a bit chaotic. But no one can doubt that the industry will be huge. And getting a piece of China's turbulent air space will be crucial in determining who prevails among the world's top manufacturers as well.

By Joyce Barnathan in Shanghai, with Dori Jones Yang in Seattle



shoulder at hometown rival Shanghai Airlines, which is earning a reputation as the best in the industry. China Southern's Zhu took a Shanghai Airlines flight and conceded: "Shanghai Airlines has better service." Singapore Airlines Ltd. is already training Shanghai's flight attendants, and United Air Lines Inc. has agreed to train technical staff in Chicago, industry sources say.

But Shanghai Airlines' professionalism is not universal. Some CAAC carri-

★
SHANGHAI
AIRLINES FIRST
UP SHOP IN A
BROKEN-DOWN
BUS—THEN MOVED
TO A CHICKEN COOP

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Shanghai, Beijing, and other big cities. Government officials estimate that there are 80 million of them nationwide, and Beijing sees them as a source of crime and instability.

SECURITY NET. The restructuring of China's corporations could make the unemployment problem worse, at least in the short run. Steelmaker Shougang, for example, has 220,000 employees—some of whom spend their days idly chatting in front of untended computer terminals in a control room littered with discarded food wrappings and cigarette butts. With its "iron rice bowl," or cradle-to-grave security net, still firmly in place, Shougang has laid off very few of its nonproductive workers.

Even so, the government promotes Shougang as one of the better-run steelmakers. As Beijing cuts off subsidies and forces its state enterprises to face competition, Wuhan Iron & Steel Complex is now talking about cutting two-thirds of its 120,000 work force. "In the '90s, labor mobility and unemployment will be China's biggest problem," says Dai Yuanchen, a senior fellow at the Institute of Economics in Beijing.

The new China Inc. also faces some big management challenges. The country has only 13,000 accountants—and they all need to be retrained. They face a monumental task. Before Brilliance China Automotive Holdings Ltd. could become China's first listing on the New

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York Stock Exchange last October, Arthur Andersen & Co. accountants spent an estimated 10,000 hours over two years getting the Shenyang-based company's books in order. Foreign investors say that much of China's new corporate stratum needs similar straightening out before it can tap global financial markets.

The emerging Chinese corporations also could fall short because many CEOs refuse to delegate authority. They make nearly all the decisions—down to signing every check. "The top man is clearly in charge," says a senior executive of a Chinese multinational. "Everyone else is an executor." Given these drawbacks, China simply may not be able to take on Japan or Korea in technological industries such as autos, advanced chemicals, and microelectronics. "It's hard to see how China will ever produce a Sony or a Toyota," says S. Gordon Redding, a management professor at the University of Hong Kong.

Even though Beijing's role has been reduced, it maintains some crucial levers of influence and is trying to respond to these different economic challenges. Through administrative fiat, the central

authorities are trying to get the provinces to cut back on construction projects. They blame this construction fever, at least in part, for the 30% increase in money supply and resulting inflation. And since there is no independent central bank to fine-tune the economy, crude clampdowns on credit remain the most effective way to rein in the growth of borrowing. Even so, the vast amount of private savings and willing offshore investors could undercut any stringent no-loan decree.

'RED CHIPS.' The central government is also moving quickly to introduce new regulations that will help whip China's corporations into shape. In July, it will put in place new accounting procedures that require enterprises to use income statements, balance sheets, and cash-flow statements. It has also recently flung open its doors to foreign accounting firms, including the Big Six. They are doing a thriving business getting China's future "red chips" in shape to be listed on the stock market. To address the absence of legal protections, the government has licensed 16 foreign law firms to act as consulting companies.

But the biggest challenges could prove to be political, not economic. Many Western experts are convinced that rapid economic growth will fuel greater demands for political liberalization. "Pressure for change in the direction of democracy is strong," says Andrew Na-



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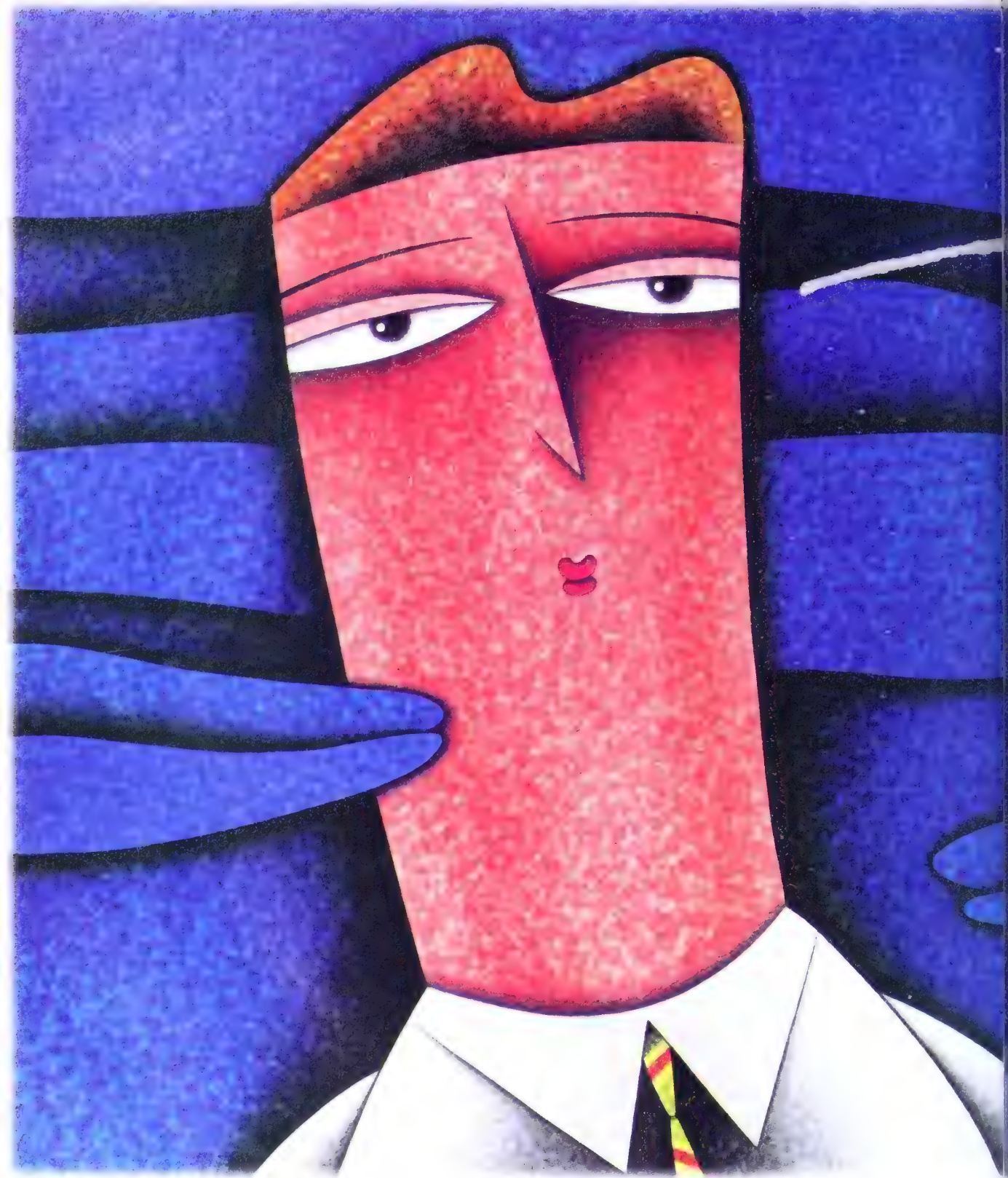
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than, director of Columbia University's East Asian Institute and a specialist in Chinese politics.

Acutely sensitive to this prospect, the Chinese government is hoping to severely limit the spread of democracy in Hong Kong, lest it move onto the mainland after 1997. It is determined to cling to a one-party state similar to Singapore under strongman Lee Kuan Yew and South Korea in the 1970s under dictator Park Chung-Hee.

Deng's strategy is clever: By giving party officials a vested interest in keeping growth going, he is helping to ensure stability as China overhauls its economic system. With communist ideology now discredited, China's leaders need to keep the economic engine revving to maintain their political legitimacy. As long as the economy continues to thrive and the Chinese people see their standard of living improve, the leaders may be able to maintain their control.

STREET WARFARE? Always looming in the background is the question of who will replace an increasingly frail, 88-year-old Deng. China-watchers have long expected a fierce power struggle once he dies. While few in the current leadership advocate a return to state planning, strong disagreements remain over the pace of economic and political reform. The worry is that Deng's death could prompt one side to take its case to the people. If that happens, the combination of unemployment, inflation, and rising expectations could again spark street protests.

All this means that China's emergence as an economic powerhouse will surely not follow the steady, incremental growth that Japan experienced. But despite the tumult ahead, China has reached the point of no return. The pursuit of wealth has become a wildfire that is sweeping through a people once consumed by class struggle. Even if Deng's death were to prove disruptive, there is little chance that the Chinese would accept any effort to roll back the clock to economic stagnation. In a very real sense, the octogenarian may have succeeded in creating a class of communist-cum-capitalists who have a huge stake in preserving their gains.

The odds are that no matter who prevails in Beijing, a quarter of humankind is going to continue moving ahead with economic changes that are helping to create a 21st century colossus. The shock waves, for better and worse, will be felt around the world.

By Joyce Barnathan in Beijing and Pete Engardio in Guangzhou, with Lynne Curry in Shenyang and Bruce Einhorn in New York

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Commentary/by Amy Borrus

THE BEST WAY TO CHANGE CHINA IS FROM THE INSIDE

It's not easy for a nation of more than a billion people to fade from Washington's radar screen. Seen mostly as a counterweight to Moscow 20 years, China seemed a giant irrelevancy after the demise of the Soviet Union. Now, China's economic boom makes it a power in its own right. That means Americans must cast aside their old cold war notions and learn to manage a much more complicated—and important—relationship.

That implies Americans have to look at relations with China as more than a test of human rights alone. Working for enhanced individual freedom in China is a basic goal that will be best served by broader political and economic engagement with China. Attacking China's trading status, a decision that President Clinton faces by June 3, is not the way. There's a lot more at stake. With billions of dollars worth of telecommunications, power, and transport projects in the works, China is becoming a critical market for such U.S. companies as Motorola, Boeing, and American Telephone and Telegraph. Unlike Japan, China isn't likely to pose a competitive threat to U.S. technology for a decade or two. Instead, China will be more driven to team up with foreign companies. So long as Beijing doesn't view these partnerships as a one-way street, the alliances will help American companies to lower costs and to become more formidable global competitors.

Political benefits may also flow from closer economic ties. A robust American corporate presence in China shores up U.S. political influence in Asia just as many Asians worry that scaling back U.S. military forces in the region will lead to a political abandonment.

AVERAGE. Establishing new terms for relations with China serves U.S. interests, but it also puts Americans and their ideals on the ground, encouraging political change. Thanks to economic reform, China is more outward-looking than ever before. Beijing's hunger for investment has made it possible for foreign companies, once restricted to coastal cities, to enter the interior. And China is eager to join the General

Agreement on Tariffs & Trade, which will force it to meet global trade rules. Through trade, China is encountering Western ideas from entrepreneurialism to religious tolerance.

It's time for President Clinton to capitalize on those favorable trends to break the stalemate in relations that followed China's brutal repression of demonstrators in Tiananmen Square in 1989. George Bush's timid response

bluff: China needs the U.S., but to be an influential player in Asia, the U.S. needs a major role in China, too.

That doesn't mean Washington can in any way ignore China's dismal human-rights record. Certainly Clinton, who vowed to make support for democracy a pillar of foreign policy, shouldn't look the other way. Despite Beijing's openness to the West, thousands languish in China's gulag, and efforts to eradicate Tibet's culture grind on. Stepped-up public and private diplomatic pressure might wring more concessions from China. China's leaders will howl, but their occasional release of political prisoners shows they will make concessions when their interests are at stake.

TRADE-OFFS. That's why engagement makes more sense than isolation. It allows the U.S. to make hardheaded trade-offs that have impact. One such tactic would be to swap resumption of U.S. military contacts with China for release of more political prisoners. China, which is pouring a fortune into advanced weaponry, craves the legitimacy that would confer. For the U.S., closer contacts could give the Pentagon a clearer sense of China's military intentions and nuclear arsenal. "It's easier to influence a friend than to influence an enemy," argues Boeing Co. President Philip M. Condit.

Not all the challenges are political. Beijing's mercantilist trade policies make its markets tough for some exporters to crack. China's trade surplus of \$18 billion with the U.S. is bound to soar. And China's furious growth is spawning pollution problems that could set off alarms among Administration environmentalists.

Old China hand George Bush never figured out just where the Washington-Beijing relationship fit in the post-Soviet world. Clinton didn't serve in China, but his penchant for viewing international relations in economic terms laced with a dose of morality may now be the right touch for dealing with the emerging Chinese colossus.

Borrus reports on China policy from Washington.



★
**POLICE ON
PARADE: CLOSER
U.S. TIES
COULD LEAD TO
POLITICAL
REFORMS**

prompted an outraged Congress to mount annual, ultimately unsuccessful, attacks on China's most-favored-nation (MFN) trading status. These showdowns inside the Beltway had little impact where it counted—in China.

Simply put, MFN is becoming a trade tool of the past. Clobbering Beijing for human rights and other abuses with heavy-handed conditions on renewal of its trade status would be a mistake. In reality, the threat of withdrawing MFN has always been little more than a

ANN RETAYLORED

The retailer's new look has lifted sales. Next: In-house designs

Sitting in her fourth-floor office in midtown Manhattan, Sally Frame Kasaks, Ann Taylor Stores Corp.'s chief executive, browses through her mail. She sets aside a stack that makes her smile. "You see these?" she beams, waving the pages in the air. "These are thank-you letters for bringing Ann Taylor back."

Under the make-over plan launched when she took over a year ago, Kasaks has repositioned Ann Taylor's merchandise, departing from the traditional career-woman look it embraced in the 1980s. The stores now feature a broader assortment of elegant, updated working and weekend wear. Kasaks' strategy has shown results: After posting a net loss of \$15.8 million in 1991, largely because of early debt retirement, the company moved into the black last year, posting earnings of \$5.9 million on sales of \$468.4 million. Burnham Securities Inc. analyst Janet Mangano expects to see earnings of \$18 million on sales of \$533 million for fiscal 1993.

But while Kasaks is winning kudos for her efforts to get Ann Taylor on the right track, there is still some uncertainty about the company's new style. Profit margins remain slim, and Wall Street's skepticism that the turnaround is permanent shows in the stock price, which has hovered between 19 and 23 since Kasaks took over (charts). And Kasaks' mail also includes terse notes from disgruntled shoppers complaining about buttons that pop off, sales help that doesn't measure up, and fabric not worth the

price tag. Says retail consultant Kurt Barnard: "Ann Taylor's image has been so badly tarnished that it may take quite a while for it to turn around completely."

QUALITY CONTROL. The next step in Kasaks' make-over is meant to address all these problems. To reduce dependence on its outside suppliers, Ann Taylor has entered into a joint manufacturing venture with key supplier Cygne Designs for in-house product design and development. The do-it-yourself approach will help rein in costs and shore up profits. It will also put quality control under

Kasaks' watchful eye. Ultimately, she thinks in-house design will help turn Ann Taylor into a national brand.

Getting there from here won't be a stroll down the runway. Kasaks inherited a mess when majority investor Merrill Lynch Capital Partners Inc. persuaded her to leave her position as CEO of The Limited Inc.'s Abercrombie & Fitch to replace Ann Taylor's Chairman and CEO Joseph E. Brooks. The company had been unraveling, its cluttered stores stocked with shoddy merchandise that mixed too many colors and styles. The past 10 years had seen the departure of five owners and five CEOs.

Kasaks also inherited a shareholder lawsuit filed against the company, Merrill Lynch Capital Partners, Brooks, and Kasaks, for allegedly misrepresenting facts in the Ann Taylor prospectus. The company took a hit in fourth-quarter 1991 when it agreed to pay \$2.8 million in settlement of the suit—in which all parties settled and denied any wrongdoing.

For Kasaks, 48, taking center stage at Ann Taylor is a repeat performance.

She spent six years with The Limited, the company in the early 1980s, the last two as CEO. In 1985, Kasaks left to head Talbots Inc., another women's specialty retailer, and in 1989 she joined Abercrombie & Fitch. She boosted sales for both retailers. When the opportunity to run Ann Taylor again came up, Kasaks admits her first thought was: "Do I want to do this?" But finally she says, she couldn't resist the challenge.

WOOL AND SILK. Merrill Lynch stands firmly behind its investment and its choice of Kasaks to lead MLCP, which owns 54% of Ann Taylor, bought the company for \$430 million in a leveraged buyout before taking it public at \$26 a share in May, 1991. "Clearly, Sally has put her imprint on the business," says MLCP partner Gerald S. Armstrong, "and we think her attention to the basics will bring the stock back."

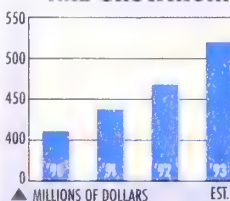
The basics have included an overhaul of the Ann Taylor look. In the 1980s, the company was known for its tailored business suits and



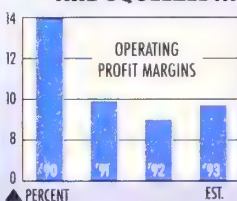
KASAKS HAS MADE A GOOD START, BUT HER WORK IS FAR FROM COMPLETE

TRYING WALL STREET'S PATIENCE

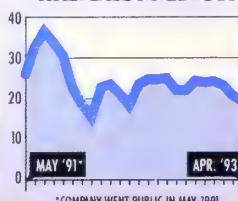
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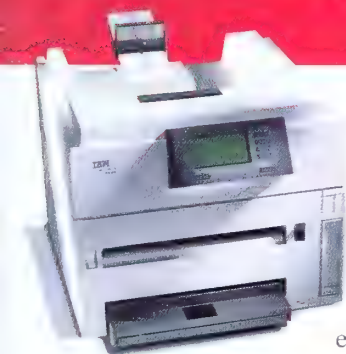
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pants. As workplaces grew less formal and women wanted more choice, Ann Taylor needed to evolve. Now, a third of the merchandise consists of casual tops and dresses, separates, linen shirts, and accessories. As much as 20% of store volume in fall 1992 came from two key items: Ann Taylor denim jeans, costing only \$30, and two-pocket silk blouses priced at \$78. Lisa Marotta, 27, a dental hygienist from Westchester, N.Y., says she no longer has to fall into The Gap or trek to Banana Republic to shop for casual clothes. She calls Ann Taylor "a one-stop place where I can buy an outfit for a wedding or something for a picnic."

In addition to improving merchandising, Kasaks has slashed prices 10% to 20% in the past year. For instance, a wool-and-cashmere jacket that in 1991 sold for \$198 now fetches \$178. Linen jackets are down to \$148, from \$178 a year ago. That strategy has boosted volume: Despite the price cuts, Burnham Securities expects net sales for the first quarter, ended May 1, to be \$120.5 million, up 5% from first-quarter 1992.

To conserve capital, Kasaks has put a lid on store expansion. While Brooks had called for Ann Taylor to grow from 177 stores in April, 1991, to 250 by 1993, Kasaks plans to add just nine stores in existing markets by yearend and to make profitable ones larger. The chain now has 219 stores in 38 states.

SHOE SALES. Finally, Kasaks has put her own people into key management positions. Most recently, when President Joseph J. Schumm resigned abruptly three weeks ago, Kasaks named Joseph Gromek, with whom she had worked at The Limited, senior vice-president and general merchandise manager.

Perhaps most important, Ann Taylor employees take seriously the challenge of winning back those disillusioned customers. This spring, while on vacation at a golf resort in North Miami, saleswoman Sharon Barbaris struck up a pool-side conversation with another guest who admired her Ann Taylor shoes. The guest said she had seen the shoes in Ann Taylor stores but never got around to buying them. Barbaris extolled their comfort and fit—and offered to order a pair in her new friend's size right from the hotel lobby. The customer bought all three available colors, and the following day ordered another pair for her daughter.

Many industry-watchers believe the company is moving in the right direction. But others want to be sure Kasaks' changes will stick. Says Salomon Brothers Inc. retail analyst Brian Gingrich: "I'm waiting for the company to mature and grow." For a sign of how things are going, keep an eye on Kasaks' mail.

By Sunita Wadekar Bhargava in New York

The Corporation

STRATEGIES



McDONNELL BOUNCES THROUGH THE FLAK

Earnings are up, and the stock has nearly doubled, but...

For a man who spends much of his time lately reading obituaries about McDonnell Douglas Corp., John F. McDonnell seems surprisingly sanguine. "Rumors of our demise have proved to be greatly exaggerated," says McDonnell, the company's 55-year-old chief executive and son of its scrappy founder. "We're obviously still afloat."

McDonnell's calm demeanor is understandable. His company's operating profits more than doubled in the first quarter, to a record \$222 million. For the year, analyst George J. Podrasky of Duff & Phelps Inc. says profits before special charges could triple to \$352 million, thanks largely to improved cash flow from McDonnell's C-17 military transport and other military programs. Buoyed by such numbers and a growing

conviction that last year's bashing of the stock may have been excessive, McDonnell's shares have recovered around 63. That's far better than September's 34%.

While McDonnell's stock may have been undervalued, plenty of long-term problems still loom. Thanks to the global airline recession, orders for McDonnell commercial jets have nose-dived. Development of its new superjumbo jet, the MD-12, is on hold until the company finds foreign partners to help foot the bill. And it's uncertain whether the troubled C-17 will ever reach full production.

Together, these crises spell one huge headache for the St. Louis-based defense contractor. Revenues are dropping down 11% in the first quarter to \$3.6 billion. Analyst Podrasky forecasts a 10

to \$15.6 billion for the year. Even so, McDonnell's cash reserves, needed in part as a cushion against unexpected financial hits, stand at a meager \$1.1 billion, a fraction of the reserves held by competitors. Boeing Co., for one, has \$3.6 billion in reserves.

Even its status as the No. 1 U.S. defense contractor, McDonnell's finances have come under unusual public scrutiny. Testimony before a House subcommittee on Apr. 22, a Pentagon auditor noted the company's "unfavorable" financial condition. A week later, Defense Secretary Les Aspin fired Major General Michael J. Butchko Jr., the Air Force's C-17 program officer, and disciplined other officials after Pentagon investigators disclosed that the Air Force improperly sped payments of \$349 million to McDonnell in late 1990. "In other words, we paid them out," says Representative John Conyers Jr. (D-Mich.).

LIABILITIES. The bad news is disappointing at a time when McDonnell has made a bet on its problems. As part of a cost-cutting push, the company jettisoned some businesses and slashed its workforce to 78,000, from a high of 125,000 in 1990. Moreover, it trimmed the debt of its aerospace unit by 10%, to \$1.1 billion, in the first quarter of 1993. Including its finance subsidiary, McDonnell's overall debt-to-equity ratio is expected to drop to 0.66 this year, compared with 1.01 in 1992 (chart). Still, analysts fear that the cost-cutting and debt-trimming may not offset further unpleasant surprises in McDonnell's businesses. "The reported liabilities have been whittled down," sighs a Wall Street analyst. "But with McDonnell Douglas, the unknowns that make you worry." The biggest unknown may be the fate of the C-17 transport program. McDonnell hoped the jet, which can carry an F-15 tank and land on makeshift airstrips, would generate \$35 billion in sales, beginning in 1993. But Congress, annoyed at Air Force efforts to funnel cash to McDonnell, is eager to save money. Many lawmakers talk of funding only 120 planes originally sought by the Bush Administration. Representative John P. Murtha (D-Pa.), chairman of the House subcommittee on defense appropriations, says he wouldn't fight a war to kill the project.

McDonnell already has a bundle on the project. Last year, it swallowed \$383 million in C-17 cost overruns, contributing to a 95% plunge in military-aircraft earnings, to \$19 million. The company still is pursuing an additional \$208 million in C-17 costs, which it wants the Air Force to pay. If McDonnell loses, it will be forced to write off those claims, as well. The C-17 isn't McDonnell's only gov-

ernment program flying under a cloud. The company is in U.S. Claims Court fighting penalties related to the A-12 attack plane. The Navy canceled the plane—jointly developed by McDonnell and General Dynamics Corp.—in 1991. Nonetheless, the Navy wants the two contractors to reimburse \$1.35 billion spent on the project. McDonnell has established a \$350 million loss provision for its share of A-12 losses, but it could be forced to eat an additional \$300 mil-

lion in charges if its claims don't prevail. To make matters worse, McDonnell is pursuing similar claims on its T-45 Navy trainer aircraft. If it loses, it could take \$142 million in additional charges.

Although the potential losses are steep, McDonnell insists it can withstand the hits. Its F-15 fighter program remains solid thanks to a 72-plane order from Saudi Arabia. And even if it loses every claim, Chief Financial Officer Herbert J. Lanese says the bottom-line charge against equity would total only \$300 million, taking into account current loss reserves and tax benefits. "That's only 10% of our equity," says Lanese, "and in no way will lead to a crisis."

A bigger worry could be McDonnell's ailing commercial business, which analysts say is the biggest threat to its health. Douglas has been moderately profitable for the past 10 quarters, after slashing more than a third of its workforce. But it hasn't bagged a major new order in almost two years. Last year, earnings fell 63%, to \$109 million, as revenues slipped 2%, to \$6.6 billion. The results would have been worse if not for a \$23 million forfeiture by a customer who canceled an order. And the future doesn't look much brighter. The workhorse MD-80, an update of Douglas' DC-9, has been eclipsed by newer narrowbodies. Even the MD-11 is under attack by Boeing's 777 and Airbus Industrie's A330/A340 widebodies. "I find it very hard to believe McDonnell Douglas can survive in this business," says Daniel J. Shine of Arthur D. Little Inc.

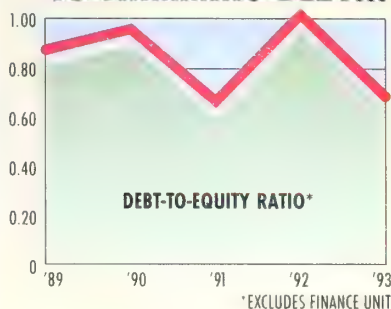
POOR PAPER. New aircraft would help. But it costs up to \$5 billion to develop and produce a new plane, and McDonnell isn't about to borrow the money. In February, Moody's Investors Service lowered its ratings on \$5 billion of debt issued by McDonnell and its finance company. Moody's also downgraded its commercial paper, to a below-investment-grade rating.

That's why John McDonnell has been on a quest for partners to help fund the MD-12 superjumbo. Since a \$2 billion deal with Taiwanese investors fell apart last year, he hasn't found much interest. But he vows to hold onto Douglas, arguing that someday the division could retake the No. 2 spot in commercial aircraft sales from Airbus. "I don't mean it's something we'll do in the next one or two years," says McDonnell. He admits it probably won't happen this decade.

For now, few analysts are willing to predict McDonnell Douglas' demise, especially given its stature as a leading defense contractor. But until it can develop new products and find willing customers, the company's biggest risk may not be an untimely death, but an uncertain, impoverished future.

By James E. Ellis in St. Louis

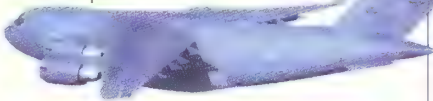
McDONNELL DOUGLAS IS TRIMMING DEBT...



...BUT FINANCIAL WORRIES LOOM

C-17 TRANSPORT

Members of Congress are threatening to curtail the \$35 billion program to save money. In 1992, McDonnell Douglas swallowed \$383 million in charges from cost overruns for the transport.



A-12 ATTACK PLANE

McDonnell Douglas and partner General Dynamics are battling in court to keep from refunding \$1.3 billion to the Navy, which canceled the program in 1991.

MD-11 WIDEBODY

With global airline purchasing in a slump, sales of the updated version of the DC-10 have stalled. Yet McDonnell has to sell 301 of the jumbo jets just to recoup \$1.1 billion in deferred development costs.



T-45 TRAINER

McDonnell has filed claims to recoup \$225 million in cost overruns on the Navy trainer aircraft. If it doesn't collect, it will have to swallow up to \$142 million in charges.

DATA: COMPANY REPORTS, BUSINESS WEEK



"GOLD MINE
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NEW ORLEANS"

STRATEGIES

HIGH ROLLING ON THE RIVER

Promus is expanding into riverboats and eyeing Indian casinos

Michael D. Rose doesn't seem like a high roller: He's a 51-year-old Harvard Law School graduate. Nor does Promus Cos., the gaming and hotel company of which he is chief executive, seem like your typical casino operation: Its headquarters are in a restored Memphis mansion, far from the green baize and glitz of Vegas.

Maybe that's why Rose is so eager to ride what he sees as a great shift in the gaming industry: Growth in casino gambling, Rose believes, will move away from the conventional confines of Las Vegas and Atlantic City and into the great American heartland as states increasingly allow

limited gambling for the sake of added tax revenue. Best known for its Harrah's hotel-casinos, Promus plans to launch seven riverboats and other small dockside casinos in the coming year to serve communities in America's midsection (table). The first of these new regional casinos, Harrah's Northern Star,

began operating on May 4 in Joliet, Ill.

Revenue from casino gambling nationwide surged almost 15% last year, to \$10.8 billion, and Promus estimates it will top \$12 billion this year. Analysts say riverboat and dockside casinos are poised for dramatic growth for the remainder of the decade. That's why Promus has already committed \$267 million so far for riverboat projects and is prepared to hike its \$877 million in long-term debt to fund further growth. Boasts Rose: "We're creating the first truly nationwide gaming brand name."

PROMUS BETS BIG ON GROWTH

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♠

RIVERBOATS

In addition to a riverboat at Joliet, Ill., Promus plans to launch others to serve North Kansas City, Mo.; Shreveport, La.; and Vicksburg, Miss. It's also seeking licenses for dockside casinos in Tunica and Biloxi, Miss., and Kenner, La.

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INDIAN RESERVATIONS

Promus purchased 20% of Sodak Gaming Supplies, which sells slot machines to reservation casinos. The company has an agreement with the Ak-Chin Indian Community to develop a casino on the tribe's reservation near Phoenix, if authorities approve it.

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HOTELS

The company is expanding its Hampton Inns, Embassy Suites, and Homewood Suites chains. Longer-term, Promus hopes to push into the European Community with Harrah's and its other hotel chains.

So far, Wall Street has been impressed. Promus stock has more than tripled in the past 12 months, to around 40 after a 2-for-1 split, or a stratospheric 60 times earnings. Morgan Stanley & Co. analyst Kurt A. Feuerman estimates earnings could rise 38% this year, to \$72 million, as revenues climb 12% to \$1.2 billion. "It's a tremendously well articulated strategy for regional gaming," he says.

'INHERENT INSTABILITY.' The odds aren't all in Rose's favor, though. While the gaming industry is booming, experts warn of an almost certain shakeout. With three more megacasino complexes opening soon in Las Vegas and with regional competitors multiplying, total U.S. casino-industry capacity could virtually double in the next 18 months. "Riverboats are a gold mine now, but there's a frenzy going on," says Raymond C. Avonsino Jr., president of Hilton Hotels Corp., which plans to open riverboat casinos in New Orleans and Kansas City. "But five years down the road, they won't all be profitable."

Rose is convinced that his brand-name strategy and strong management team position Promus to be among the winners. "They've done their homework and they have an enviable reputation," agrees Saul F. Leonard, an influential industry consultant. "That should give them first crack at the better places as they open up."

Rose figures that most of the states now operating lotteries eventually will allow some form of casino gambling. Besides the lure of added tax revenues, he believes state lawmakers will view casinos as a desirable amenity for major cities, not unlike racetracks or professional sports teams. Gaming experts agree that legalized gambling will spread—though they caution that the industry could face a political backlash. "There may be an inherent instability to the industry," says William R. Eadington, director of the Institute for Gambling & Commercial Gaming at the University of Nevada at Reno.

In addition, much of the 1990s industry growth came not in traditional casinos but in gaming on Indian reservations. That's why Promus is also testing the waters of reservations. Last December, it signed a tentative agreement with the Ak-Chin Indian Community to develop and manage a

illion casino complex on its reser-
outside Phoenix. And it bought
of a company that sells slot ma-
to reservation casinos.
nbling hasn't always been the cen-
ce at Rose's company. Formerly
as Holiday Corp., the company
d the Holiday name in 1990, when
sold its maturing Holiday Inn hotel
to British brewer Bass PLC. Nowa-
gaming accounts for 80% of reve-
and 79% of operating income, with
making up the rest.

ile riverboats sound exotic, Rose
es they're a fairly conservative
re. In Illinois, which approved
boat gaming in 1991, only 10 casino
es will be issued, holding competi-
o a minimum. True, the state is im-
g a stiff 20% tax on riverboat op-
ers' net winnings, more than double
% to 9% average in Nevada. But
fewer rivals, promotional costs
d be low.

hough Promus now operates casin-
n the U.S. only, Rose has set his
s on international markets, too. Pro-
bid to land a license for a small cas-
n Auckland, New Zealand, is a sort
st case to "show what we can do."
Promus President Philip G. Satre.
also in the running for a casino that
rio plans to open in Windsor, across
iver from Detroit. Other contenders
le Hilton, Circus Circus Enterprises,
and Trump. And Promus is eyeing
European Community, depending on
rules for the single market develop.

A SERVICE. Rose also is pushing hard
expand Promus' noncasino hotel
s. The company now operates 467
pton Inns, Embassy Suites, and
ewood Suites hotels. In the face of a
nwide hotel glut, Rose is banking
value approach. Hampton Inns ho-
for instance, have no restaurants,
he price averages \$40 a night, com-
d with \$55 at midmarket chains
as Ramada and Best Western. As a
t, average occupancy at Promus'
s was 71% in 1992, compared with
industry's 63%.

l, Rose's main focus remains gam-
Despite the fear of overcapacity,
big players, including Circus Cir-
TT Sheraton, and Hilton are eyeing
boats. Promus also has to deal with
up of new, smaller contenders that
scrambling to take advantage of
ling markets. Casino America Inc.,
xample, launched its first riverboat
July.

se is betting that Promus has the
y and strategy to ride through any
stry shakeout. Maybe so. But in-
s ought to remember something
y gambler should know: No win-
streak lasts forever.

*Chuck Hawkins in Memphis, with
ld Grover in Los Angeles*

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FANCY FLYING BY A BANKRUPT AIRLINE

MarkAir test-pilots a novel idea: Expanding out of Chapter 11

Bankruptcy. The shame of it. One might well expect companies in Chapter 11 to slink away quietly while they reorganize. But MarkAir in Anchorage, Alaska, is using the courts' protection to spread its wings. Since entering Chapter 11 last June, it has almost doubled its jet fleet to 13 and flies to 10 major cities across the country, up from just one outside Alaska. "No airline, to my knowledge, ever shrank its way into profitability," says Neil Bergt, MarkAir's combative owner and CEO. "Pan Am tried it. Eastern tried. Midway tried. It doesn't work."

MarkAir's strategy is just the sort

of thing that makes critics of the bankruptcy code see red. As one camp sees it, when an ailing carrier uses Chapter 11 to prop itself up, the entire industry suffers. American Airlines Chairman Robert L. Crandall and others argue that stronger airlines are forced to match the low fares of a competitor that is shielded from many of its costs. Darryl Jenkins, managing partner of Aviation Forecasting & Economics, says that of more than 100 airline bankruptcies he studied, no carrier has reorganized successfully long term.

Bankrupt airlines claim solvent carriers have inflicted more harm by adding capacity and launching fare wars of their own. While the debate rages on, MarkAir is astounding many with the audacity of its moves. "We find it incredible," says American spokesman Al Becker, adding that the concept of expansion under Chapter 11 "turns the world upside down."

MarkAir, which in the 1970s flew oil-drilling equipment by propeller planes to Alaskan bush country, took its name in 1987 when it became a jet passer

ger carrier. Initially, it stuck to routes in Alaska. But in late 1991, after rival Alaska Airlines Inc. rejected an offer to buy him out, Bergt added service from Anchorage to Seattle. Fare wars ensued. Strapped for cash, MarkAir sought to tap public markets—but never pulled it off. By June, 1992, it sought protection.

STALL TACTICS. Bergt makes no apologies for his sojourn in court. "There are no advantages," he says. "People are afraid to buy tickets, and my legal expenses run about \$500,000 a month." But Bergt has proven a survivor, and he's not likely to go down easily. In late 1991, as he launched his expansion, he persuaded a state lending agency to come up with \$6 million to buy MarkAir's hangars, which the airline then leased. And once in Chapter 11, the depth of the recession worked to Bergt's advantage, enabling him to hang on to leased jets that creditors had little hope of placing elsewhere. MarkAir also used the leverage of bankruptcy to get a new labor agreement from its pilots.

When a \$7 million loan fell through last fall, it looked like the airline might shut down. But Bergt still had a trick up his sleeve. Alaska residents get dividend checks every year from the state's oil wealth. So Bergt unveiled a stunning sales promotion: All those willing to part with their \$916 checks would get vouchers for four round-trips anywhere MarkAir flew. Alas-

kans jumped on it. "We raised 20 million bucks, interest-free, that we got to live on through the winter," boasts Bergt. The carrier has yet to show a quarter's profit. But Bergt says a turnaround is in progress, and he still has his sights set on June for getting a reorganization plan confirmed.

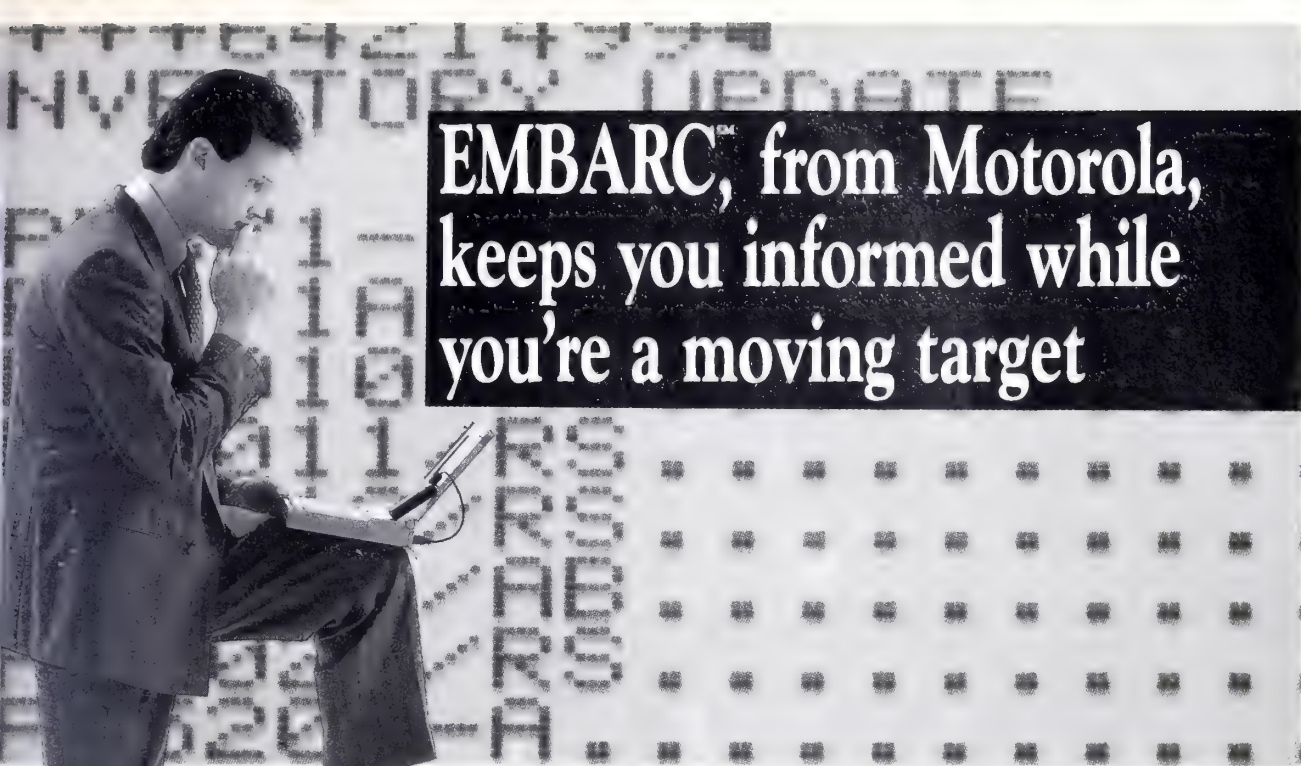
But not without pain. Most of MarkAir's lenders have been dragged through the expansion kicking and screaming. Seafirst Bank lent MarkAir more than \$13 million and sought to claim much of that through bankruptcy court, arguing that the expansion posed a "significant and unacceptable risk." The bank was overruled. Now, creditors leery of accepting debentures with a year balloon payments are being offered ticket vouchers that they could either use or sell in bulk. Creditors fret they could only get rid of the tickets at an unattractive discount.

Some Alaskans who turned over their \$916 checks are already grumbling. MarkAir flies most of its long-haul routes only once a day and has strictly controlled the number of cheap seats available. Voucher holders are often in standby. And that doesn't always go over well. Curt Josaitis, an Anchorage businessman, says he was unable to get seated on a flight to Seattle last March. "This is ridiculous," he says. "These weren't sold as standby tickets but that's the way I'm having to use them." MarkAir says that vouchers were marked as subject to restrictions and that most holders have been able to travel with confirmed reservations.

Bergt continues to focus his efforts on "getting capital in here," exploring options that include going public, merging, or being acquired. He's right about one thing: No airline ever shrank its way out of bankruptcy. It's up to him to show that the opposite strategy can fail.

By Hal Bernton in Anchorage, Alaska, with bureau reports





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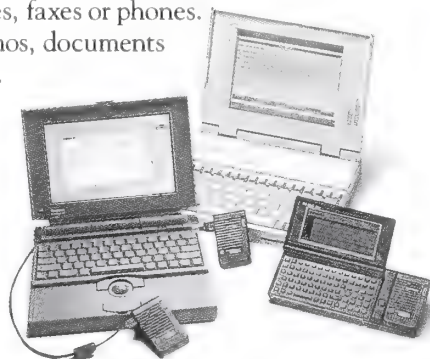
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QUICK, SAVE THE OZONE

Imperial Chemical Industries set the pace to make a CFC substitute



STEVEN HAD NEVER
COMMERCIALIZED RESEARCH

If James "Hugo" Steven ever doubted the importance of his work in finding substitutes for ozone-depleting chlorofluorocarbons, the Queen of England dispelled them. Her Majesty, worried about atmospheric damage from the refrigerants, met with the Imperial Chemical Industries PLC chemist and others in London two years ago to quiz them on their progress. Recalls the much-impressed Scotsman: "She asked sensible questions."

And Steven had sensible answers. Years of pressure from world governments and unparalleled cooperation among chemical producers had led to chlorofluorocarbon (CFC) substitutes in record time. Steven could boast to the Queen that ICI, once an underdog in the CFC business, was setting the pace in a race with Du Pont Co. and Elf Atochem to develop the technology. Last December, after an all-out, nearly \$500 million development effort, an ICI plant in Louisiana was the first world-scale U.S. facility to start pumping out HFC 134a, an alternative to CFC 12, the chemical that accounts for more than 50% of CFC use.

The saga of 134a is an object lesson in how a global crisis can compel governments and companies to transform tech-

nology far faster than either thought possible. With deadlines for phasing out CFCs closing in, ICI and its rivals, Du Pont and Elf, developed technology speedily by constructing factories even while their choice molecules were still being tested. ICI slashed the time it takes to commercialize a technology from the industry norm of more than a decade to only five years. Conclusion: If companies are forced to act on environmental issues, they do it. "Companies have always known how to push the hell out of something when there's a buck to be made," says Isadore Rosenthal, a senior research fellow at the University of Pennsylvania's Wharton School. "This will teach them to do it somewhat faster."

No one was moving very fast when it came to replacing CFCs until 1985, when scientists found a hole in the ozone layer over the Antarctic. The gap supported a theory that chlorine from CFCs destroys atmospheric ozone, which protects the earth from the sun's radiation. Soon, higher rates of skin cancer and a potential global warming were blamed on a gas that for decades had leaked into the air from millions of car air conditioners and trashed home refrigerators. Du Pont

and other chemical makers knew CFC days were numbered. They leaped to develop 134a and other alternatives called HCFCs, which contain small amounts of chlorine than CFCs.

The effort required an enormous about-face for chemical makers. In 1985, CFCs were the refrigerants of choice worldwide. They were nontoxic, nonflammable, energy-efficient, and inexpensive—with a worldwide \$1.5 billion year market. True, in 1977, ICI researchers were among the first to tinker with 134a, a chlorine-free refrigerant that is as nonflammable as CFC 12 but without its ozone-depleting action. But their work languished in the late '70s and early '80s, because many scientists believed that a 1978 U.S. ban on CFCs aerosol cans would solve the problem. Besides, no one wanted to develop a chemical that would cost five times as much as CFCs, then 57¢ a pound.

GAMBLE. In 1985, ICI decided to go for the brass ring. The British company held less than 10% of the CFC market—well behind industry leader Du Pont. ICI figured that the first company to ramp up the most efficient production would gain an advantage. Executives decided to put their fortunes on 134a. By focusing on just one CFC alternative, it gambled that it would develop the technology fast and grab a hefty share of a market estimated to approach \$2 billion a year by the turn of the century. "We knew the clock was ticking," says Anthony Mash, commercial director for fluorine chemicals at ICI Americas Inc.

ICI dragooned Steven to head research for KLEA, ICI's 134a even though the chemist, who had worked on blue sky research at ICI since 1974, had no experience commercializing research. Steven plowed ahead regardless, building his team of scientists from just eight in 1985 to more than 80 in 1990. By then, ICI had 200 staffers dedicated to 134a.

From the start, strategy dictated research. In the critical matter of what kind of chemical broth to choose as the basis for the creation of KLEA, ICI opted for one that contained chlorine because it would yield no wasteful byproduct. That required that researchers find a way to neutralize the chlorine. The trade-off was worth it. Since ICI didn't need the byproducts, the process ultimately was more efficient without them.

In 1987, the team set 1995 for the opening of a commercial plant. It was an ambitious target, since no one knew what gear was needed, much less how to design the plant. But with the signing a few months later of the Montreal Protocol, the treaty that initially called for 50% CFC phaseout by '98, the team had

elerate the timetable by two years. Is Steven: "We were all in shock." Pres of people were mobilized. Re- hers and engineers had to reverse conventional operating practices. ally, chemists would devise a pro- for turning out a chemical, then the recipe over to engineers so could design the plant. With an ad deadline looming, chemists had omise catalyst details by certain so engineers could start design- eactors. To encourage risk-taking, anagers promised there would be nalties for mistakes. "If we expect- eople to do the impossible, we in't burn them when they were g," says Steven. sterling camaraderie and dedication

finished, ironing out wrinkles with construction staffers along the way. Later, parts of the plant were tested while others were being built. The overlap allowed ICI to start up last December—just after the world's nations agreed to accelerate the phaseout of CFCs, ending their use entirely in developed countries by yearend 1995.

But it wasn't until St. Gabriel was almost built that ICI made a key technical advance. For three years, Steven's group looked for the catalyst that would boost the efficiency of the chemical reaction that yields 134a. In all, they scrutinized 150 candidates, narrowing the field to three by testing. Then, they built a small chemical plant to determine which one worked best. Last year, they picked

Within a few months, ICI scientists reformulated the oils. Says Taulbee: "ICI showed courage in moving ahead with production for 134a before anyone approved its use."

PITCH AND WOO. U.S. carmakers weren't easy to win over either. Not only were they reluctant to take on the costs of changing to the technology, recalls Angelo P. Patti, an engineering supervisor for Chrysler Corp., "we weren't sure when the chemical would be available, what its properties would be, and what problems we would run into." Mash campaigned hard to get carmakers to sign on, supplying engineering and technical assistance that helped make Chrysler an early convert. Its 1992 Jeep Grand Cherokee became the first American ve-

THE SCRAMBLE TO BRING NEW CHEMICAL TO MARKET

lorofluorocarbons used in cooling items have been implicated in the destruction of the earth's protective ozone layer. Here's how companies raced against constantly changing deadlines to produce substitute.

74 Scientists theorize that CFCs could deplete the ozone layer.

1977 ICI and France's Elf Atochem identify 134a as a likely CFC substitute.

1978 U.S. bans use of CFCs in aerosol propellants.

1985 Scientists observe hole in the ozone layer over Antarctica.

1987 Montreal Protocol is enacted, calling for a 50% cut in CFC use by mid-1998. ICI, Du Pont, and Elf Atochem start up 134a pilot plants.

1990 Montreal Protocol revised, calling for 50% reduction in most CFCs by 1995. ICI starts up world's first

commercial 134a plant in Britain.

1992 Montreal Protocol revised to ban CFCs by 1996. Elf Atochem opens its 134a plant in France. ICI starts up its \$100 million U.S. plant, the world's largest, built in less than two years.

1993 Du Pont accelerates production phase-out of CFCs to 1994 and plans to open a 134a plant in Texas.

1994 AlliedSignal will open a 134a plant in Louisiana.

1995 Elf Atochem plans to open its U.S. 134a plant in Kentucky.

critical. Toiling away in secret, at Runcorn lab in northern England, ed. Steven, now 44, also led his col- es on team-building exercises. Sev- spent a weekend together in the near Manchester, navigating their through a forest. Once, a group of shared a night in a barn. The team me so close that by project's end, at two couples wound up marrying. needed the internal harmony to interact outside pressure. Rival chem- makers had agreed to share informa- on the safety of 134a and other sub- stes, but the cooperation ended e, giving way to fierce competition et into production first. In 1988, ont grabbed headlines when it an- nced that it would phase out CFCs though it wasn't then required. r, DuPont and Elf Atochem an- ced ambitious plans for factories. ICI won out when it opened its first mercial plant in Runcorn in 1990.

PARALLEL ENGINEERING. The real produe- test came with the St. Gabriel (La.) t. In early 1991, ICI set out to build a million, 22-million-pound production ty in less than two years. To meet deadline, plant manager Stephen es had to adopt parallel engineering. gniers moved from one project to her even before their first job was

their winner. The ultra secret catalyst will enable ICI to double its production capacity to 80 million pounds a year.

Even before breaking ground for the St. Gabriel plant, ICI had to face the marketing challenge posed by 134a. Chemical makers had to prove not only that the substitutes worked but also had to help customers make the engineering changes required to adopt them. In 1989, ICI sent Mash, one of its business directors in Europe, to the U.S.—the world's largest CFC market—to persuade carmakers, refrigerator makers, and other prospective customers to switch to KLEA. Since safety testing of the chemical wouldn't be cleared until 1992, the job wasn't easy.

Skeptical customers didn't help. In January, 1990, Ken Taulbee, vice-president for the Americold division of Electrolux AB, the largest U.S. refrigerator-compressor outfit, delivered a technical paper at an industry conference that said 134a was unsuitable. The problem: Lubricants added to the gas gunked up the narrow tubes inside refrigerators.



MASH AND BARNES BUILT A PLANT IN JUST TWO YEARS

to more than 134a's \$5 a pound, an incentive to switch to substitutes. But price alone won't induce manufacturers to convert. ICI will face escalating competition from Du Pont and others, some of whom offer a broader array of CFC substitutes.

Even more worrisome, some scientists wonder whether one day, they could find that even 134a poses yet-unknown environmental risks. After all, CFCs were heralded as a brilliant advance in safety when they were introduced in the 1930s. So ICI and its rivals will have to stay nimble in case they are forced into action again.

By Joseph Weber in Wilmington, Del.

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SCHEDULE OF EVENTS

May 11	New York City (Race 1)	June 24	Buffalo	July 27	Long Island	August 18	San Francisco
May 18	Rochester	June 29	Philadelphia	July 29	Boston	September 14	Atlanta
May 27	Albany	July 5	New York City (Race 3)	August 3	Syracuse	September 22	Dallas
June 4	Frankfurt	July 14	London	August 5	Chicago	October 9	New York City—Chemical Bank Corporate Challenge International Championship
June 7	Oslo	July 20	Morristown	August 10	Princeton		
June 16	New York City (Race 2)	July 22	Stamford	August 12	Paramus		

The New York Times

BusinessWeek

American Airlines

Developments to Watch

BY PETER COY AND WILLIAM D. MARBACH

YOU SAY POTATO, I SAY SOLANUM LYCOPERSICON



What's in a name? Botanists are pondering whether 'tis nobler to change the genus name under which tomatoes are classified or to retain the accepted, but apparently artificial, distinction between tomatoes and potatoes. Sophisticated DNA analysis of the tomato genome convinced researcher Robert K. Jansen of the University of Texas and

colleagues that tomatoes have so much in common with the genus *Solanum* that they should fall under that designation rather than *Lycopersicon*, as they are now classified. The similarities have long been known, but the scientists, writing in the *American Journal of Botany*, suggest that a name change for tomatoes to *Solanum lycopersicon*, which literally means "sleep-inducing wolf peach," will reflect reality and may encourage genetic engineers to look more closely at potatoes. "Completely immaterial," scoffs Roger H. Salt, chief executive of Calgene Inc., which is tweaking tomatoes to allow the fruit to ripen longer on the vine. Alas, a *lycopersicon* by any other name will taste as sweet.

DISAPPOINTED: A GENE THAT CAN PINPOINT TUMORS IN COLON CANCER

For decades, scientists have noticed that colon cancer tends to run in families. But it wasn't clear why. Is the disease the result of a shared environment in these cases—which accounts for about 10% of all colon cancers? Or are nefarious genes at work? The question prompted an international team of researchers, led by Bert Vogelstein at Johns Hopkins University and Albert de la Chapelle of the University of Helsinki, to spend the last four years painstakingly searching for a genetic cause—without knowing whether it really existed. "It was very frustrating," recalls Vogelstein. "We wondered if we were wasting our time."

But now, the researchers have found the gene. While they have yet to pinpoint the exact mutation, they do know that it appears to be present in about 1 in every 200 people, making it the most common inherited disease. What's more, they report in the May 7 issue of *Science*, the gene exerts its effect in a novel way. When flawed, it leads to damage in the pieces of DNA, particularly in those genes that have already been linked to rarer forms of inherited colon cancers. Scientists expect the discovery to lead to a diagnostic test in six months—and eventually result in better therapies.

WARMING UP THE TUNABLE LASER

When Chung L. Tang, an electrical engineering professor at Cornell University, heard about a new optical crystal that had been developed in China in 1985, he quickly realized it was the key to building a so-called tunable laser. Unlike most

lasers, which can emit only a single wavelength of light, these devices could be tuned, by turning a dial, to give off light over a broad range of wavelengths from ultraviolet to infrared.

To build such a versatile, broad-spectrum laser, Tang took advantage of an unusual property of the new beta barium borate (BBO) crystal. It splits a photon, or particle of light, in two. The wavelength of the resulting light beam depends on the angle at which the light entered the crystal. So, by simply rotating the crystal's slanted surface, the wavelength of the laser beam can be changed. Surgeons, for example, use one frequency for fusing muscle tissue and another for cauterizing blood vessels.

Tang's group spent six years developing methods for growing these BBO crystals. Cornell then licensed the technology to Spectra-Physics Lasers Inc. in Mountain View, Calif., which recently unveiled the first commercial broad-spectrum tunable lasers. The company is marketing the devices for materials processing, medical equipment, pollution monitoring, and other applications.

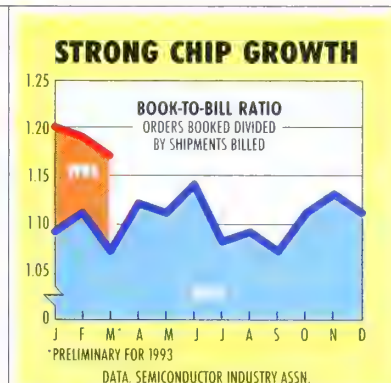
ELECTRONIC MESSAGES FROM PHONES, PCs, EVEN FAXES

Tired of telephone tag? Fed up with voice mail? Motorola Inc. has a new paging system to reach those who are in the office but away from their desk. A small, 4-ounce pager alerts workers that they have a call on hold—and allows them to reach the caller by using any TouchTone phone. The system, from Motorola's Paging Products Group in Boynton Beach, Fla., also provides caller identification so that people who don't want to be interrupted can screen their calls.

The Site Connect system will relay electronic messages from personal computers and faxes as well. Another module will serve maintenance crews and others who need to stay in touch with security or factory monitoring systems. A paging system for 500 users will cost about \$500 per user, says Steve Spiro, director of Customer Owned Paging Operations.

AMERICAN CHIPMAKERS CATCH A WAVE

The U.S. semiconductor business is posting healthy gains. Since January, the chipmakers have been booking new orders at a rate almost 20% higher than they are shipping products. March bookings climbed 5.4% from February, to \$2.19 billion—an impressive 46% jump from March, 1992. Demand for chips is being driven mainly by strong U.S.



sales of computer gear, which increased 17% in the first quarter from a year ago, to \$14.85 billion, according to the Electronics Industries Assn.

All this is welcome news for U.S. suppliers of chipmaking equipment, who are recapturing market share lost to Japanese rivals, says market researcher Dataquest Inc. Last year, U.S. semiconductor equipment suppliers accounted for 29.7% of the world's \$5.1 billion market, or nearly five points more than in 1991. And Dataquest predicts that U.S. chip-equipment sales will top 33% of the market this year and hit 34% next year.



INSURANCE

VIVE L'EQUITABLE COMPANIES?

How Dick Jenrette rescued the insurer

Is the Equitable next to die? That was a real fear in 1991, the insurance industry's year of sheer gothic horror: one big carrier after another collapsed. At New York-based giant Equitable Cos., harrowing losses from ill-advised 1980s forays into real estate and junk bonds were bleeding the grand old insurer's capital dry. Policyholders were bailing out. So were agents.

Then in July, 1991, Equitable Chairman and Chief Executive Richard H. Jenrette, an unassuming bald fellow with a pixie smile, stepped before the cameras with dapper Claude Bébé, head of French insurance behemoth Groupe Axa. In his pleasant North Carolina drawl, Jenrette announced a lifesaving \$1 billion Axa investment in the Equitable.

Someone asked Jenrette, brought in just a year before to turn around the company, who would run it now.

After a playful glance at Bébé, Jenrette said: "*Moi.*"

Dick Jenrette has pulled the 134-year-old Equitable back from the abyss, displaying a deft mix of political cunning, financial savvy, and strategic vision. After three straight years of crushing losses, the nation's third-largest insurer, with 3.4 million policyholders, is actually expected to turn a profit for 1993's first quarter. Plain old good luck has helped. Surging capital markets have benefited the Equitable's investment subsidiaries mightily. But Wall Street veteran Jenrette deserves kudos for cutting costs, dumping troublesome businesses, restructuring rotten assets, and—most important—luring fresh capital. Indeed, the Gallic connection, which Jenrette forged and has maintained despite periodic strains, is key to its recovery.

SUCKING WOUND. Axa, whose 49% ownership of the company gives it effective control, is an occasionally overbearing presence in the Equitable's 50-story Manhattan tower. But Jenrette's diplomatic skills have kept the French happy while smoothing over tension that their sometimes high-handed ways have provoked among Equitable executives. Bébé has enough trust in Jenrette to allow him a lot of freedom.

The Equitable, though, isn't out of harm's way. It is still suffering from some debilitating weaknesses that could undo what Jenrette has achieved. The Equitable's real estate subsidiary, while significantly improved, remains a giant sucking wound. It can't unload its ailing disability-insurance business, which lost \$55 million last year. Further, the Equitable is inordinately dependent on fat profits from its investment units, Alliance Capital Management Corp. and Donaldson, Lenkin & Jenrette Securities Corp., which Jenrette co-founded. A severe bear market could wreck the Equitable's bottom line again. And although Jenrette is not required to step down when he turns 65 next April, odds are Axa will want to inst

anger successor before too long. Wall Street analysts think it to be an American. Still, the succession could set off another round of discord, for much of the Equitable's progress stems from the unusually close personal chemistry between Jenrette and Bébear.

The soft-spoken Jenrette, elevated to CEO in a 1990 boardroom coup that he contends he had nothing to do with, is a master at ingratiation. A true Southern gentleman, he goes to great lengths to shower courtesies on the lowliest subordinates. His ever-present grin and self-effacing charm easily disarms others. Says Dan W. Lufkin, a former business partner: "Jenrette speaks a Southern-fried French that sends the French to fits of laughter." But it has worked.

BEAUTIFUL, RUNDOWN. Jenrette, an architecture lover and historic preservationist, likens his efforts at the Equitable to restoring old houses he has painstakingly bought and restored, ranging from a Hudson Valley mansion to a sugar plantation in Saint Croix (page 84). "This fine old company needed to be like a beautiful, rundown house," he says.

Underneath Jenrette's retiring manner is a bold, risk-taking streak that he first showed in his Wall Street days. He was in the Street's hidebound, privately held white-shoe ranks by launching upstart DLJ and later taking it public—moves that simply weren't done. After scoring the Axa buyout, he took the almost-heretical step last year of converting the Equitable (assets: \$78 billion) from mutual to stock ownership. Mutuals, the most prevalent format among life insurance companies, are technically owned by their policyholders, but in practice management has free rein. Stock owners must answer to pesky analysts and shareholders. The result is they have access to public markets. Last summer, Jenrette raised an additional \$450 million in an initial public offering of common stock. And in April, he raked in \$800 million more from a convertible preferred issue.

At Axa's pot of francs is what Jenrette holds most dear. He has turned the full force of his winning personality on convincing Bébear, with whom he has a good bit in common. The two men built businesses from the ground up. In 1959, when Jenrette co-founded DLJ, it was the first major investment-firm to emerge since the Depression. Axa was a tiny insurer when Bébear assumed its helm in 1974.

The two insurance chieftains enjoy fine wines and together have toured Axa-owned vineyards near Bébear's chateau in Burgundy. They both adore old buildings, and Jenrette has turned off his many holdings to his new friend. Jenrette says he knew they would hit it off when, during 1991 talks over the Equitable Axa investment in the Equitable, he visited Bébear's century Paris townhouse. "It's got a hidden garden," Jenrette enthuses. "I felt I had a kindred spirit." To please Jenrette, Bébear recently had Axa buy a fine old beaux-arts



AXA CEO BEBEAR GIVES JENRETTE WIDE LATITUDE

bank building on Place de l'Opéra that was the Equitable's Paris headquarters in the early 1900s. Bébear's 33-year-old son, Guillaume, has worked for DLJ for the past year as an investment banker.

The Equitable's woes, which brought Jenrette and Bébear onto the scene, stemmed from classic 1980s' overreaching. Under ebullient former salesman John B. Carter, the Equitable forayed willy-nilly in all directions, seeking to become a "financial supermarket," the catch phrase of the day. Carter bought DLJ in 1985 for \$432 million and retained Jenrette as its head. To compete in the hot chase for the investment dollar, Carter's Equitable offered products such as guaranteed-investment contracts (GICs) that paid out up to 18% yearly. To make those lofty payouts, Carter backed them with high-return real estate and junk bonds.

Excluded from Carter's inner circle, Jenrette, a lifelong bachelor who was already extremely wealthy, thought about quitting. Suddenly in the late 1980s, real estate and junk bonds tanked, leaving the Equitable scrambling to meet GIC and other expensive obligations. In 1990, the board booted out Carter and replaced him with the financially attuned Jenrette. (Joseph L. Dionne, CEO of McGraw-Hill Inc., publisher of

BUSINESS WEEK, was a director of the Equitable at the time—and still is. And this year, Jenrette joined the McGraw-Hill board.) He could have walked away and spared himself the world-class hassle. Says Jenrette, who earns \$1.9 million yearly for his troubles: "I never wanted the job. But it's not in my nature to leave things in distress."

'REAL THUGS.' For Bébear, buying into the Equitable fulfills a dream of making Axa a global insurance powerhouse. Now the 14th-largest insurer in the world and No. 2 in France, Axa failed in a 1989 bid to take over California's Farmers Group Inc., a property-casualty provider. Other big-leaguers interested

EQUITABLE STANCHES ITS LOSSES...



▲ MILLIONS OF DOLLARS

...AS IT REBUILDS SHRUNKEN CAPITAL...



▲ MILLIONS OF DOLLARS

...BUT REAL ESTATE WOES PERSIST



▲ PERCENT

DATA: COMPANY REPORTS, AMERICAN COUNCIL OF LIFE INSURERS, A.M. BEST CO.

in the Equitable, such as American International Group Inc., balked at the company's bum real estate assets. Not Axa, which was attracted by the high quality of many of the Equitable's properties. Axa is convinced that the U.S. insurer has strong earnings potential. "We have time," says Jean-Claude Damerval, head of Axa's international operations. "We can wait out a weak market." Axa also likes the Equitable's upscale clientele: Average policy size is \$205,000, vs. a \$46,000 industry average.

The sometimes rocky relations between senior Equitable and Axa executives were a real challenge to Jenrette's political skills, say people close to the company. Axa, which sets performance targets for the Equitable, regularly sends its executives across the Atlantic to check up on their U.S. counterparts. Known as "French shadows," some of these visitors have upset the Americans with harshly worded demands for information and coldly delivered criticism. "Bébéar is a likable guy," says one Equitable officer, "but he's surrounded himself with real thugs."

GUESSING GAMES. Several Equitable executives, who requested anonymity, say the tension was worst right before the mid-1992 IPO. Buying interest was tepid, and Axa was afraid the deal might be aborted, harming its \$1 billion investment. Indeed, the per-share offering

price had to be reduced from \$12 to \$9. Jenrette, however, worked hard to convince the French that everything would work out. It is surely unfair, but a measure of how tense things got was that some Equitable folks actually blamed French shadows for the heart-attack death of Chief Financial Officer Thomas M. Kirwan, right before the IPO. "He was constantly second-guessed," says one Equitable executive. "On top of the IPO pressure, they drove him nuts."

A possible flare-up that Jenrette averted was a dispute over DLJ, according to several sources. They say Axa's Damerval pushed in late 1991 to sell off DLJ, or at least to deny it a \$100 million capital infusion it sought from parent Equitable. Reason: Axa is disturbed by the cyclicity of the securities business. Jenrette, the sources say, went to Bébéar and nailed down solid support for DLJ, his baby. Damerval and Jenrette deny that any of this occurred. Yet Damerval says: "We are insurers primarily, and DLJ is on the outskirts of our key priorities."

For the record, Bébéar and Jenrette insist that no discord has occurred in the Franco-American partnership. "There are no problems," says Bébéar. "It's not complicated to work with American people. They are multi-ethnic and open-minded, unlike the British, who are an island [nation]. We saved the company, but we are not trying to dominate

it... The people in charge are good people who do their best," Jenrette says, "has seen no tensions," adding he is comforted because "Claude tells me it wants it to be perceived as an American company."

Axa, for now, has shown willingness to continue pumping money into the Equitable. And that's despite the French insurer's own financial ups and downs. In 1992, Axa suffered a 35% drop in earnings, to \$301 million, a result of a recession in Europe. Nevertheless, Axa boasts \$2.9 billion cash on hand, which buys a lot of flexibility. On Apr. 21, Axa bought almost half of the \$800 million convertible preferred stock that the Equitable floated. "We'll put more in if necessary," says Bébéar. "The Equitable is a very good company that has had some problems... We are very happy with Dick."

For good reason. Before the Frenchman showed up, back in 1990 and early 1991, when the Equitable seemed doomed, Jenrette spent months successfully persuading veteran agents to stay. His capital-raising acumen was taxed to the limit in peddling the IPO to skeptical buyers. During the grueling 28-city IPO road show last summer, Jenrette talked himself out of much he lost his voice.

Much of Jenrette's time has been spent repairing the Equitable's battered balance sheet. Take real estate. Since the Equitable has a well-deserved reputation as an ace property manager, he foreclosed on buildings he thought could run better, such as the 1,500-room Westin Bonaventure hotel, the largest downtown Los Angeles. And he has sold off some real estate where prices did

JENRETTE'S ADROITNESS HAS BEEN CRUCIAL IN SMOOTHING OVER ROUGH SPOTS IN RELATIONS WITH AXA

THE OTHER HOUSES THAT DICK (RE)BUILT

Dick Jenrette came by his passion for fine old houses as a boy during twilight walks with his mother around the leafy neighborhoods of his hometown, Raleigh, N.C. For his mother, the walks were a way to digest dinner. But for her son, they were a chance to eye the broad porches and white columns of the grand Southern houses. "They were beautiful," he says.

Today, Jenrette boasts a collection of six houses that he has lovingly restored and furnished with antiques. His red-brick neo-Georgian town house off Manhattan's Park Avenue is filled with hand-tooled furniture from the early 1800s, before the era of mass production.

Among his favorites is the Roper Mansion, an 1830 Greek Revival showpiece on the Battery in Charleston, S.C. Prince Charles was his guest there in 1990. In all, the CEO and chairman of Equitable Cos. has refurbished 12 houses, selling off some.

SUGAR SHACK. Rehabbing mansions is an expensive hobby, of course. And Jenrette's family was merely comfortably middle class. Fortunately, Jenrette ended up in a profession ideally suited for people who sincerely want to be rich. For a time, while he was at the University of North Carolina, he dreamed of becoming a sportswriter. But the paltry living that offered caused him to abandon the notion after graduation and follow his father into insurance sales.

Jenrette's business career started with New England Mutual Life Insurance Co. in the early '50s. He chatted up friends on the Raleigh social circuit, and when they brought up changes in their lives,



ARCHIPASSION: IN HIS MANHATTAN TOWN

such as a new baby, he pounced on them with a sales pitch. "I was like a waiter waiting for them," he says. But while, too many prospects turned him down, telling him they would rat

low that the company would take
ing, such as three office buildings
ly in Washington. On top of that,
te has expanded the Equitable's
able business managing properties
ension funds and other third par-
Plus, he has gradually diminished
Equitable's junk-bond collection; it
ed from 8.5% of the investment
lio in 1990 to 6% last year. The
ous GICs are a problem that is cur-
self: The last will expire in 1994.

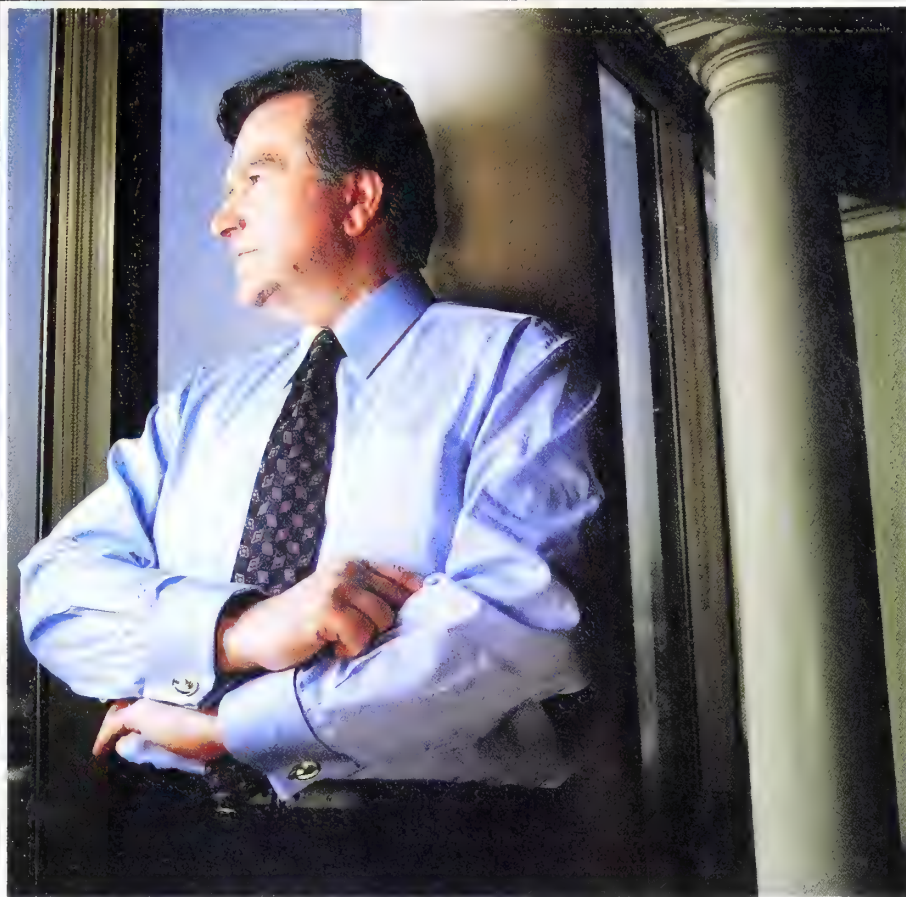
IG FAT. Like any good turnaround
Jenrette has taken a scalpel to
He ended the home office's daily
cut flowers and axed the fleet of
auffed limousines. Layoffs and
on have sliced head count from
in 1989 to 5,200 now. The most
g economy has been combining the
fferent major computer systems
our, which the company vows will
n by early 1996. Jenrette also has
merged its two money-management
55%-owned Alliance with wholly
d Equitable Capital Management
, which allowed him to lop the com-
payroll by 8%, or 100 people. Plus,
merger beefs up the insurer's capital
70 million because Equitable Capi-
s part of publicly traded Alliance,
can be recorded at its full market
on the Equitable's books.

Other of Jenrette's money-saving
s was overhauling the lush compen-
system for sales agents—without
g them away. The Equitable's pop-
universal-variable product, called
ative Life, permitted policyholders
ip premiums even though agents
paid 50% of first-year premium in-
whether collected or not. The com-
ate the shortfall. Incentive Life
yanked in May, 1992, and was re-

he future by purchasing stocks.
ng Jenrette headed north to Har-
ness school and then Brown
Harriman & Co. He started Don-
ufkin & Jenrette Securities Corp.
Harvard pals, William H. Donald-
ntly chief of the New York Stock
) and Dan W. Lufkin (now run-
Partners LP, a private investment
ip).

elling DLJ to the Equitable in 1985,
bought a 200-acre former sugar
a in Saint Croix called Cane Gar-
g from 1786. He figured he would
m the securities firm and devote
overhauling the tumbledown neo-
greathouse that sits on a hill
ng the Caribbean. Fate decreed
. But now, Cane Garden's long-
estoration is finally complete. The
s may be, too. Nonetheless, there
re other piles of ancient masonry
Jenrette's ministrations.

By Larry Light in New York



EQUITABLE PRESIDENT MELONE: "THE ISSUE FOR US IS GETTING BACK THE MOMENTUM"

placed with two new policies, one requir-
ing regular premium payments, the oth-
er motivating agents to get clients to
pay up by postponing part of the com-
mission until then.

No wonder the Equitable now is doing
a lot better. Since the mid-1991 IPO, Equi-
table stock has more than doubled, to
20. That reversed its sagging capital,
which bounced up by more than a third
last year, to \$2.2 billion. With the recent
preferred sale, capital stands at just
over \$3 billion. Policy surrenders are
down, along with agent defections. And
sales of insurance and annuities are up
again. "The issue for us is getting back
the momentum after the troubles," says
Joseph J. Melone, company president,
whom Jenrette lured from No. 1 Pruden-
tial Insurance Co. to oversee the sales
side. Earnings are improving: 1991's
teeth-cracking loss of \$898 million nar-
rowed to \$128 million last year. Wall
Street predicts black ink for 1993. Ana-
lyst Weston Hicks of Sanford C. Bern-
stein & Co. says 1993 earnings per share
may hit \$1, up from a 66¢ loss last year.

SHAKY PORTFOLIO. Nevertheless, no one
argues that the Equitable is home free.
With vacancy rates near record levels,
commercial real estate remains a major
weakness that won't go away soon. The
Equitable is among the most exposed
insurers to property problems, both
from structures it owns directly (6.4% of

invested assets at yearend 1992, vs. 3.3%
for the entire insurance industry) and
mortgages it issued (28.8%, vs. 19.7% for
the industry). Almost half its mortgages
are in the Northeast or on the West
Coast, where the real estate recession is
the worst and shows little sign of get-
ting better for years to come. Its prob-
lem mortgage loans, 5.7% of its portfo-
lio, are double the industry average.

More bad news: The Equitable's at-
tempts to unload its red-ink-gushing dis-
ability business are floundering. Talks
with UNUM Life Insurance Co. of Ameri-
ca, the leader in disability coverage,
broke off on Mar. 3. Equally vexing, the
Equitable's expenses are still among the
highest in the insurance realm (25.3% of
the premium dollar, vs. 11.5% for the
industry), partly the fault of maintaining
the costly hodgepodge of computers.

Jenrette is the first to acknowledge
that the company's remaining infirmities
can undo all the progress he's made:
"Things can always jump up and bite
you." But credit Jenrette—with the help
of his Parisian *ami*—for engineering an
impressive rebound so far. "If an insur-
er the size of the Equitable had gone
under, it would have been a national dis-
aster," says Jenrette. Availing that will
stand as this gentlemanly preservation-
ist's lasting legacy.

*By Larry Light in New York, with
Charles Hoots in Paris*

TROPICAL HEAT AT CITIBANK

It denies wrongdoing, but Panamanian debt trades raise questions

Debt issued by Panama is a tiny slice of the huge less-developed-country (LDC) debt market. But lately, it has accounted for a good portion of the fireworks—including allegations of questionable trading.

Fireworks are not uncommon in the LDC debt market, which can be highly volatile and acutely susceptible to the rumor mill. The Federal Reserve and the Manhattan district attorney recently began checking into possibly improper trading practices (BW—Mar. 15). Oversight of the market, while strengthened over the past two years, remains frag-

in the Panamanian debt negotiations, and some traders suspect that information from the talks leaked out to debt traders. Both Narayan and Citicorp vehemently deny any wrongdoing.

UPSWING. Market prices for Panamanian debt began to rise last month, as LDC debt traders awaited an Apr. 20 negotiating session between Panama and its creditor banks. Traders hoped Panama, which owes billions to foreign banks and other creditors, might soon resume making interest payments on its debt. With the market anticipating good news, the country's unrefinanced debt—the por-

Bank. "You buy the caterpillar hoping it'll turn into a butterfly."

Unfortunately for buyers of Panamanian debt, the restructuring talks accomplished little. When the talks' outcome was reported by news-wire stories late on Apr. 21, Panamanian debt prices fell. By Apr. 28, the debt was trading as low as 29¾¢ on the dollar. "It was kind of wild and woolly there for a couple of days," says Timothy L. Grozier, a manager at Tullett & Tokyo Forex Inc.

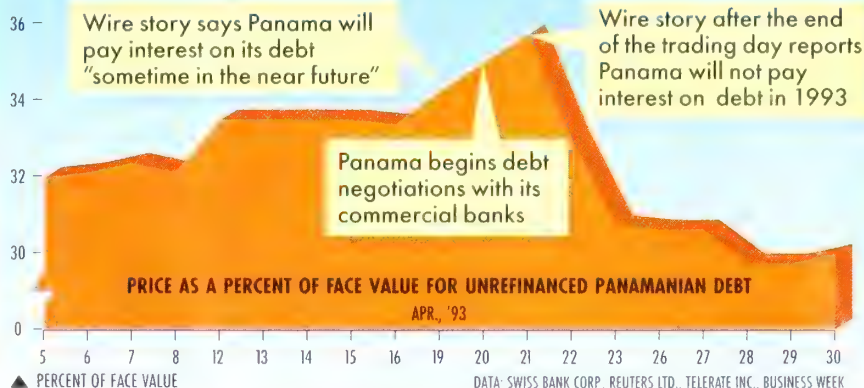
Rumors began swirling that Narayan had been selling Panamanian debt on Apr. 21, before reports that the talks had been inconclusive. One investor calls getting a call from Citi sometime after noon on Apr. 21, looking for a buy on one type of Panamanian debt. When the investor quoted a price close to 30¢ on the dollar, the Citi trader, the investor says, took the offer and sold the investor debt with a face value of \$1 million. Other investors and traders recount similar stories. "Everyone was asking each other what the hell was going on," says one. Narayan left for vacation soon afterward. After returning on May 3, he announced he was leaving Citicorp for another position. Sources say he will probably go to Banco Santander, where he will join his former boss at Citicorp, Hari Hariharan. **STRICT RULES.** Both Narayan and Citicorp emphatically say there was no improper trading. "I clearly and unequivocally deny all allegations in the market," says Narayan. "If people are upset, it is because they are worse traders than I am." And the Citicorp spokesman says the bank carefully checked Narayan's trading records and found nothing improper. "We have investigated the allegation and found no substance to them."

There is no evidence that Narayan had access to privileged information about the restructuring talks. Citicorp has strict rules constraining debt traders' personal trading activities and limiting interaction between traders and debt negotiators. And Narayan certainly had access to plenty of public information that could have made him decide to sell Panamanian debt before other traders did. For example, it's public knowledge that Panama will hold elections next year, and experts say countries don't often commit to a debt restructuring with an election on the way. As for Narayan's departure, the Citi spokesman calls the timing "entirely coincidental. We're sorry to lose him, and we wish him well."

The price of Panamanian debt has recently stabilized at around 30¢ on the dollar. But that's small consolation to the LDC traders for whom Panamanian debt proved to be just a little too exotic.

By Kelley Holland in New York

PANAMANIAN DEBT'S WILD RIDE



mented, and the laws and regulations governing trading sometimes are fuzzy.

Panamanian debt is part of the market for "exotics," the debt of small countries, in which trading is especially illiquid and subject to wild price swings. The untamed nature of the Panamanian debt market was painfully apparent to traders in late April, when prices rose nearly 10%, only to fall more sharply as speculation about the favorable outcome of debt-restructuring talks between Panamanian officials and the country's creditor banks proved incorrect.

Some traders still are licking their wounds. And they're pointing accusing fingers at one LDC debt trader, Shankar Narayan, then with Citicorp. As first reported by Reuters on May 3, Citicorp appeared to be one of a few banks "in the forefront" of the price move. Citicorp also led the group of bank lenders

tion of the debt that has not been renegotiated with Panama's creditors—opened for trading on Apr. 16 at 33¾¢ on the dollar, according to Swiss Bank Corp., and rose during the day. The price continued to climb gradually on Monday, Apr. 19. Late that day, a wire-service story flashed on traders' screens. Citing an unnamed Panamanian source, the story said the Panamanian government "will announce this week that it intends to resume partial interest payments 'sometime in the near future.'"

On Apr. 20, Panamanian debt prices rose again. The next morning, the unrefinanced debt was trading around 35¢ on the dollar. "There's no cash flow coming out, so the only thing that drives [prices] is stories" about the prospect of interest payments and the like, says Peter N. Marber, a director in the emerging-markets trading and finance group at Swiss

PROFITS AND GOOD PR?

Insurers may do well on AIDS coverage for health workers

Operating on patients with HIV, the virus that causes AIDS, is routine for the 50 doctors in the emergency of Wisconsin Hospital's surgery. And while Surgical Administrator Kevin McMahon can't assure the doctors that they won't be infected with the virus, he has found a way to lower their risk level. Last year, he arranged for the hospital to purchase a disability insurance policy targeted to health-care workers at risk of catching HIV. If doctors can no longer see patients because they've been infected with the virus, they will, for a time, make up for their loss of income. Says McMahon: "It gives them some peace of mind."

For years, insurers shied away from offering explicit AIDS coverage, though the disease is included in many umbrella disability policies. To insurers, the risks seemed both large and difficult to quantify. Now, after years of prodding by regulators, insurers are finally entering the market. At least two dozen have recently unveiled or are developing disability policies aimed at health-care workers at risk of being infected with HIV.

WELCOME. Insurers aren't simply responding to pressure: The AIDS market could be very lucrative. While AIDS disability policies pay benefits even if the virus isn't transmitted at work, the incidence of health-care workers being infected with AIDS, on or off the job, is on the low. Insurers also hope the new product will give them an inside track on offering other policies to the ever-burgeoning number of health-care workers. And if AIDS policies are profitable, insurers hope to sell them to other target groups, such as police officers or firefighters.

The new policies are getting a warm welcome. Although it has not yet begun to market a policy rewritten by UNUM Life Insurance Co. in Portland, Me., the American Hospital Assn.'s insurance unit says 1,000 hospitals have expressed interest. For this year, the Health Insurance Assn. is expected to recommend a basic AIDS disability policy for its members to sell rather than criticizing insurers



McMAHON: "IT GIVES THEM SOME PEACE OF MIND"

for preying on workers' fears, consumer advocates and regulators endorse the coverage. AIDS policies could encourage infected workers to come forward earlier, says Connecticut Insurance Commissioner Robert R. Googins.

Statistics point to a market with a lot of profit potential. Of the estimated 1.5 million residents in the U.S. infected with HIV, only 36 are health-care employees who were infected at work. And out of 5.6 million health-care workers in the country, just 8,000 have caught the virus. Insurers think the statistics will get even better, because of new Occupational Safety & Health Administration guidelines that require new safety precautions in health care.

Insurers are surprised and encouraged by the low claims level. UNUM, a

leading provider of disability insurance, found that costs didn't rise as quickly as it had expected. Because of that, the company decreased reserves for AIDS claims by \$4.4 million during the last three months of 1992.

Such coverage is not without risk for insurers. The level of claims is "still a big unknown, and actuaries don't like unknowns," says Don Ainge, executive vice-president of Medical Group Insurance Services Inc. in San Jose, Calif., which offers the policies. Others point to \$1.3 billion in payments from life- and health-insurance coverage in 1991 as a result of AIDS cases. That brought total benefits paid since 1986 to \$4.9 billion. AIDS disability coverage could ring up similar numbers, some insurers argue.

AIDS policies, though, limit insurers' potential exposure. Policies from ITT Hartford Life Insurance Co. call for a six-month wait before enrollees can receive benefits. "We did not want to get a lot of small groups with known claims essentially buying a policy to get benefits," says John D. Wiggins, an assistant vice-president overseeing ITT Hartford's AIDS disability coverage. Connecticut Mutual Life Insurance Co.'s policy limits benefits to two years after a worker tests positive.

After years of dragging their feet, insurers may find that AIDS policies could be an alluring double play: good public relations—and even better profits.

By Chris Roush in Hartford

WHY INSURERS ARE TARGETING MEDICAL WORKERS

SUBSTANTIAL PROFIT POTENTIAL Risks seem low relative to premiums. Of the estimated 1.5 million cases of AIDS in the U.S., only 36 are health-care workers infected at work, says the Centers for Disease Control.

OPPORTUNITY TO CROSS-SELL Selling AIDS disability coverage gives insurers a chance to sell such other products as life insurance to predominantly white-collar medical workers, an attractive market. Policies could also be offered to other workers with exposure to HIV—police officers or firefighters, for example.

GOOD PUBLIC RELATIONS Companies are seen as helping doctors, nurses, and other health-care workers. Consumer advocates say the coverage may also encourage workers with policies who develop AIDS to tell employers sooner.

DATA: BW

BY GENE G. MARCIAL

THIS BARE-BONES BROKER LOOKS PRETTY JUICY

Ever heard of Waterhouse Investors Services? If you haven't, you're not alone. Although its shares trade on the Big Board, Waterhouse is little-known on the Street, and institutional ownership of the stock is almost nil. But that's just dandy with money manager Bill Astrop, whose forte is finding overlooked small- to mid-cap stocks with strong, predictable growth rates.

Astrop has been accumulating shares mainly because he likes Waterhouse's niche operation: the no-frills, deep-discount brokerage business. The commission fees are 70% below those of Merrill Lynch and 30% lower than those of discounters Charles Schwab or Quick & Reilly, says Astrop, though the other brokers offer far more services than Waterhouse does. Astrop believes Waterhouse's only real competitor in the deep-discount business is a privately owned West Coast company called Pacific Securities.

"Waterhouse operates with a linoleum-floor mentality—they don't have secretaries, and they don't consider themselves investment bankers or anything glamorous," explains Astrop. Most of the company's more than 300 employees are young men and women "order-takers" who just take buy and sell orders, mainly by phone. Waterhouse currently has about 400,000 clients, mostly individual investors who manage their own portfolios.

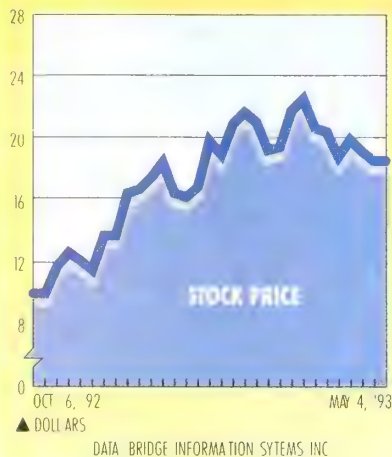
BRANCHING OUT. Waterhouse plans to add 15 outlets by yearend in such cities as Honolulu, Palm Beach, and Oklahoma City. It currently has 40 branches in major cities in 24 states.

For its most recent quarter, which ended Feb. 26, the company reported a 40% jump in earnings, to \$4.2 million, or 70¢ a share (adjusted for a stock split in March), vs. 50¢ a year earlier. Revenues jumped 35%, to \$22.3 million.

Astrop says even if the overall stock market simply remains stable, Waterhouse should earn \$2.25 a share in the year ending Aug. 31 and \$3.50 next year, up from 1992's \$1.40. He figures revenues should advance to \$100 million by next year, up from an estimated \$75 million for this year and \$55 million last year.

The stock is trading at a price-earn-

THE RISING TIDE AT WATERHOUSE



ings ratio of 10, vs. Schwab's 14, notes Astrop. Chairman and CEO Lawrence Waterhouse owns some 25% of the stock, which has climbed from 10 in October to as high as 23 in April. Now trading at 18½, the stock "is the easiest double that I see" over the next 12 to 18 months, says Astrop.

TAKING THE PULSE OF U.S. SURGICAL

There would seem to be no good reason for anybody to jump into the washed-out shares of U.S. Surgical, the pioneer in developing laparoscopic instruments. The stock has been in a downspin since the beginning of 1992, when it traded at \$120 a share. By January, 1993, it was down to 75, and some people thought the mighty highflier had finally hit bottom. Wrong. In April, the company said hospital orders for its equipment have slowed, which will affect second- and third-quarter results. So most analysts have cut their 1993 and 1994 estimates. The stock currently trades at 35.

So why are some pros now buying heavily? Money runners Keith Schneider and Clarence Bartow, managing partners at Garrison Partners, aren't daredevil speculators, but they have been scooping up shares of U.S. Surgical in recent days. Garrison's proprietary "pattern-recognition technique" has identified the company as a "compelling buy" because of a "reversal" in its volume and direction, says Schneider. This signal, he says, suggests that the stock is on its way to 50 over the near term.

Schneider says the buy signal coin-

cides with the budding rally in the depressed medical stocks. He's convinced that U.S. Surgical will lead the group on the upside. Garrison's system signaled a weakening in Intel in early April—several days before the stock skidded 13 points in one day.

One fund manager expects earnings of \$1.95 to \$2 a share this year—well above most estimates. And U.S. Surgical Chairman Leon Hirsch insisted recently that the high end of the Street's estimate of \$1.15 to \$1.90 a share "is more realistic than the low end."

AN ALL-NIGHT SPERMICIDE?

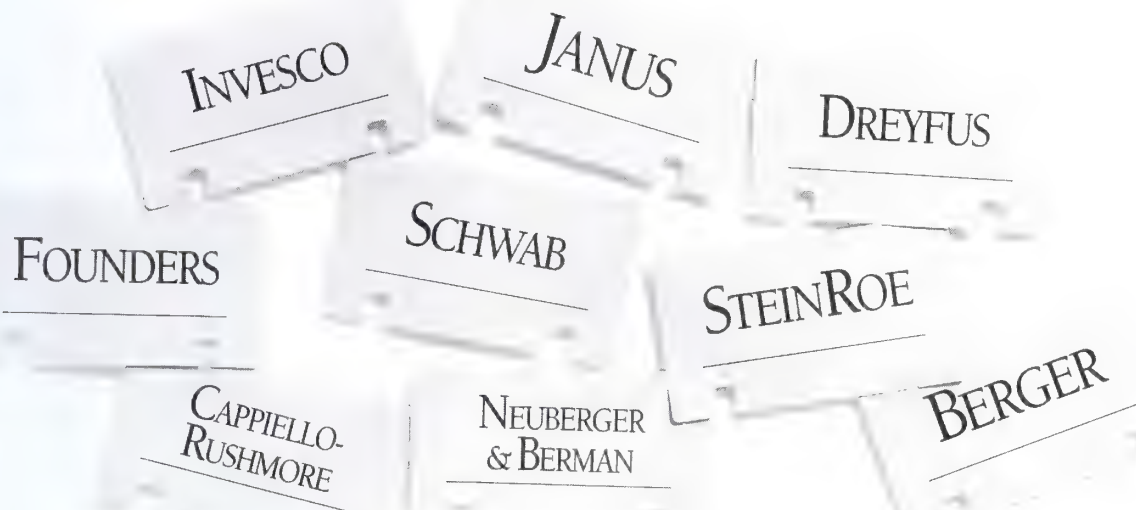
For a money-losing young pharmaceutical company, Columbia Laboratories has been attracting some smart-money pros of late, including Stanley Knowlton of Knowlton Bros., whose firm took a 5.3% stake, and Bill Hopke of Dominion Capital (and an outside director of Columbia Labs), who owns close to 5%.

Here's why: The company, which has shifted its focus in the past year toward women's health-care products, is said to be ready to sign a marketing agreement with a U.S. pharmaceutical giant. The contract is for one of Columbia's new products, a spermicide called Advantage-24, which appears to be effective for 12 to 24 hours. It has been undergoing clinical tests at the University of Southern California, Britain's University of Manchester, and Tokyo University. Columbia President and CEO Norman Meier says the company is talking with several drugmakers.

One analyst says there are early indications that the spermicide also provides protection against sexually transmitted diseases. This source expects sales of Advantage-24 to start late this year overseas, possibly in Europe, and in the U.S. by next year.

One pro expects the company to become profitable this year. He bases his estimate on the worldwide licensing arrangements for Replens, Columbia's first product, which went on sale in early 1992. Replens is a vaginal moisturizer that Columbia markets with Warner-Lambert in the U.S. and with Johnson & Johnson in Belgium and Italy. Evan Sturza, editor of *Sturza's Medical Investment Letter*, who rates the stock as a strong buy, expects Columbia to earn 20¢ a share next year. One money manager who has been accumulating shares sees the stock, now at 4¾, hitting 10 in a year.

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THE GLITCH AT WORDPERFECT

It's changing its nice-guy strategy to fight back against Microsoft

In November, 1991, top management realized things weren't so perfect at WordPerfect. The No.1 maker of word processing software was under attack from a surging Microsoft Corp. Chairman Bruce W. Bastian began to wonder if WordPerfect Corp.'s management team, famous for its Mr. Nice Guy approach, had what it took to fend off the king of the hill. Via an electronic-mail message, Bastian put it to President Alan C. Ashton and Vice-President Pete Peterson: "Are we the right people to be directing this company?" Peterson, who had been running operations for 12 years, was blunt: "I know I am. But I don't know about you."

Thus began the upheaval that's still transforming WordPerfect. Since its founding in 1979, the company has been a collegial, if insular, place. In Orem, Utah, far from Silicon Valley, WordPerfect has operated like one giant extended family. Its primary objectives, according to its mission statement: "To conduct business fairly, honestly, profitably, and courteously, while avoid-

ing debt and extravagance." An admirable approach, but a bit timid for a half-billion-dollar company that, just as it's laying plans to go public, finds its lead threatened by mighty Microsoft. "We need to be No.1," says Ashton. "We need to be aggressive."

HOT FLIGHT. The electronic spat between Peterson and Bastian, who also happen to be brothers-in-law, has set off an avalanche of change. Within four months, Peterson was out and replaced by a seven-member executive committee, including co-founders Bastian and Ashton and five top managers. The company hired its first chief financial officer. WordPerfect is coming out of its shell, forming partnerships, making acquisitions, and trying to expand beyond word processing, which accounts for 80% of revenues.

These moves didn't come soon enough to head off problems in 1992. Preliminary figures from market researcher Dataquest Inc. show that last year, Microsoft took over the No.1 slot in the \$1.7 billion word processing market, with 46% compared with WordPerfect's 32% (chart). WordPerfect disputes those numbers but acknowledges its share slipped because it was slow to respond in May, 1990, when Microsoft unveiled the Windows 3.0 "environment." Microsoft had a 3.0 version of Word for Windows that July, and it now has 53% of the Windows market. WordPerfect for Windows

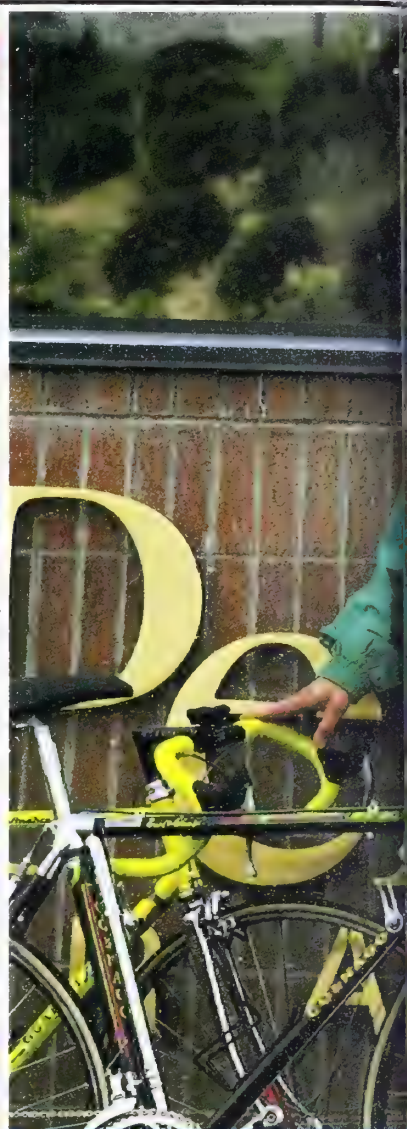
arrived 16 months later to so-so reviews. An improved version followed a year later, but the damage was done: Its share is just 31%, Dataquest says. "WordPerfect missed the party," crows Pete Higgins, Microsoft's senior vice-president for desktop applications.

The lost ground shows up in the company's bottom line. While WordPerfect does not disclose its results, insiders say revenue dropped by more than 5%, to about \$550

million, in 1992. Worse, the cost of about 1,000 new workers helped compress operating profits by 50%, say insiders. At about \$130,000 in sales per employee, WordPerfect is now the most inefficient of the top PC software makers, says *Soft Letter*, a newsletter.

That's especially awkward when the company is contemplating an initial public offering. Investment bankers who have seen the books confirm the anemic 1992 but remain eager to take the company public—perhaps as early as this summer—because they feel the turnaround is under way and could accelerate when key new products arrive later this year. In the first quarter, insiders say, revenues jumped more than 20% because of the improved WordPerfect for Windows. Bastian says that an IPO is

Bastian won't discuss the timing of an IPO, but he and Ashton are expected to sell a 20% stake in the company to the public



WORDPERFECT'S MARKET SHARE IS SLIPPING

MARKET SHARE FOR PERSONAL COMPUTER WORD PROCESSING SOFTWARE

MICROSOFT

WORDPERFECT

PERCENT

DATA: DATAQUEST INC.

likely but won't discuss the timing. Bastian and Ashton each own 50% of the company and are expected to sell a 20% stake to the public for \$200 million to \$300 million.

The signs of an impending IPO are everywhere. The company is seeking first outside directors, and CFO David Campbell has changed accounting from a cash basis to the more customary accrual



BASTIAN AND ASHTON SEE THEMSELVES AS SOFTWARE DEVELOPERS RATHER THAN BUSINESSMEN

flight number. The flight became a cross-country lobbying session. Says one of the bankers: "This is expected to be one of the largest technology offerings ever." Microsoft's 1986 IPO raised just \$61 million.

PROUD PAPAS. Living up to Wall Street's expectations could mean some more growing up for WordPerfect's management. Neither Ashton, 51, nor Bastian, 45, had much management experience before teaming up in 1977. Ashton was a computer-science teacher at Brigham Young University, and Bastian was his graduate student. Their collaboration led to the WordPerfect package that by the mid-1980s was the top seller. "We don't claim to be innovative businessmen or innovative money managers," says Bastian. "We see ourselves as innovators in software development."

The problem lately has been getting products finished. Like other software makers, WordPerfect has found the shift to Windows tricky. An electronic-mail program, key to the diversification effort, was due early this year and is now slated for summer. A presentations package due in November has slipped until summer. Ditto for an update of WordPerfect for MS-DOS. "We can't seem to get a product out the door," frets one

salesman. "The problem is that Alan and Bruce are nice guys and they can never say: 'Get it done or else.'"

To be sure, Ashton and Bastian are not whip-crackers. Despite its size, the company has operated like a giant mom-and-pop shop. Everything was paid for in cash. All products were homegrown in the red-brick buildings owned by WordPerfect. Most of the 5,600 employees

are of Utah stock or hired out of Brigham Young. That has meant a company dominated by the Mormon emphasis on hard work and large families. Like proud papas, Bastian and Ashton bestowed company cars and generous salaries. When sales reached \$100 million in 1987, employees and spouses were whisked to Hawaii. Yet in the market, the company eschewed flashy ads, acquisitions, and alliances. And never was there a disparaging word said about a rival.

Rather than chuck the nice stuff, Bastian and Ashton are adding new tricks. They're speeding up programming and are spending gobs of money on marketing, including the company's first national TV ads. In its new print ads, the company is biting back at Microsoft. "In the past, our major goal in life was to be nice guys," says John C. Lewis, a senior vice-president. "But last year we had a business catharsis and asked ourselves: Does that also mean we have to be quiet? We have to appear weak?"

SLOW MOVES. Another change: WordPerfect has started to reach out to other companies. It has spent some \$20 million acquiring three small software makers. Last month, it teamed up with Borland International Inc. to offer customers a deep discount on a so-called "suite" of Windows packages, including WordPerfect and Borland's spreadsheet and database software. It's an important defensive move since 40% of Microsoft Word sales are in such bundles. On May 4, Microsoft upped the ante with a new suite including a data-base program.

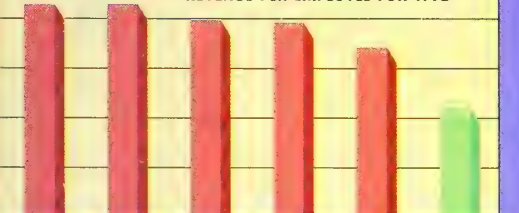
While WordPerfect now may be making the right moves, skeptics still worry that a seven-man executive committee could prove cumbersome. The deal with Borland, which took a year to negotiate, could have been done in a few months, critics say. Similarly, a former executive complains that a licensing and maintenance program for big corporate buyers took seven months. Ashton counters that the record will prove that the committee, not a single executive, is the best way to run WordPerfect.

Peterson remains one of the chief skeptics. He sold his 1% stake back to the founders last year and now observes the company from his home, directly across from WordPerfect's campus. "The problem is pretty simple," says Peterson, who is launching a new software startup and writing a book about WordPerfect. "You have a company founded by developers. At some point in time, it doesn't work. You have to get those products out the door. Maybe they need a kick in the seat of the pants." By now, though, WordPerfect has had several.

By Kathy Rebello in Orem, Utah

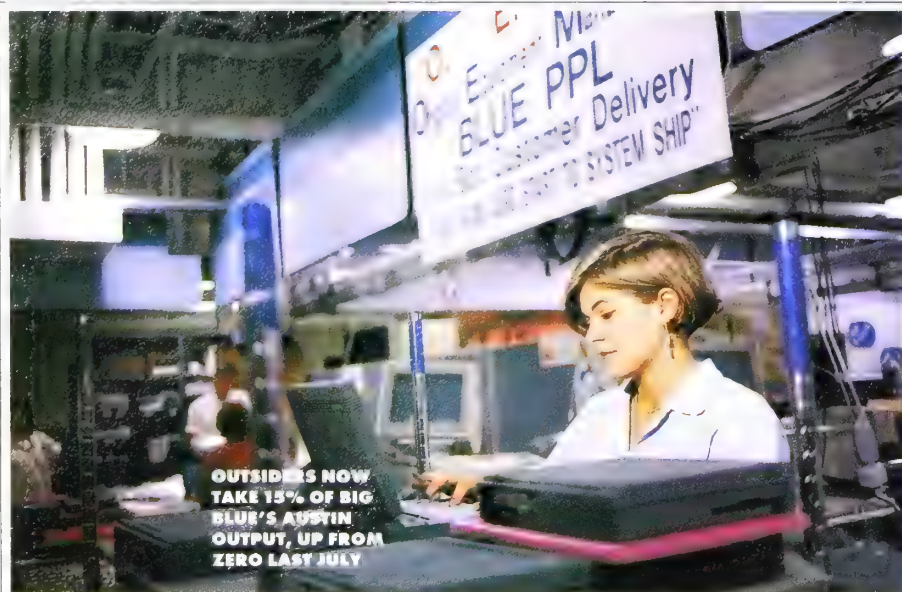
AND IT TRAILS COMPETITORS IN PRODUCTIVITY

REVENUE PER EMPLOYEE FOR 1992



NOVELL MICROSOFT BORLAND AUTODESK LOTUS WORDPERFECT
DATA: INT. (1992)

broach. He also says Morgan Stanley & Co. has been retained as "financial advisers." It's one of several firms vying for the WordPerfect underwriting. Last month, when company executives flew to New York to meet with underwriters, they found themselves surrounded by investment bankers from Morgan Stanley, Goldman Sachs, and Merrill Lynch who had obtained the



OUTSIDERS NOW TAKE 15% OF BIG BLUE'S AUSTIN OUTPUT, UP FROM ZERO LAST JULY

FARMING OUT WORK —TO IBM, DEC, NCR...

'Contract manufacturing' has become the province of giants

What's a computer maker to do? With sales of such "big iron" as mainframes and minicomputers declining, the massive plants erected to build them can't be kept busy. Assembling personal computers from a handful of microchips and other prefabricated parts certainly won't do the job. The result: increasingly idle factories, many of which are doomed to be shut down.

IBM, Digital Equipment Corp., and other big computer makers have found a better idea: Instead of closing underused plants, laying off workers, and wiping out earnings with costly write-downs, they're keeping factories open by building products for other companies—sometimes for direct competitors. Such "contract manufacturing" has been standard procedure in the electronics business for decades, but until recently, the Big Blues of the world have farmed the work out—not taken it in.

It may seem like a comedown, but the \$17 billion contract manufacturing market represents a welcome opportunity. The business is

growing more than 10% annually, says market researcher Technology Forecasters Inc. in Berkeley, Calif., which also says the business has stable, after-tax returns of 5%. Plus, by building for others, a company can hone its manufacturing skills and sell more electronic components of its own.

For the newcomers, the challenge is to learn the business fast enough to compete with the lean job shops that they used to hire. Analysts say it took Texas Instruments Inc., a pioneer that now has a \$200 million job-shop business, years to turn a profit.

Still, the field is full of new faces. In addition to computer makers IBM, DEC, NCR, Tandy, and Britain's ICL, dozens of

big-name electronics and defense companies such as Eastman Kodak and Westinghouse are jumping into contract manufacturing. John Tuck, editor of industry newsletter *Manufacturing Market Insider*, estimates that these companies have \$800 million in contract manufacturing revenues and have earmarked as much as 20% of their manufacturing capacity to serve others.

STRANGE BEDFELLOWS. In some cases, such work is all that's keeping factories open. "If we don't make a go of this, we'd have to close the place," says Michael H. Flanagan, who oversees a 1,500-person IBM circuit-board plant in Charlotte, N.C. This year, he expects about 25% of his business—worth some \$350 million—to come from customers outside IBM. That's up from zero in 1990. Westinghouse Naval Systems' torpede factory in Cleveland, which faces the loss of as much as 90% of its business because of expiring defense contracts, is bidding on \$100 million in contract manufacturing orders. "Our goal is to bring in profitable work that enables us to maintain our current work force," says contract manufacturing manager Jay N. Longworth.

Contract manufacturing can make for some strange bedfellows. DEC, for example, is building Apple Computer Inc. LC-2 computer and in-flight video systems for Hughes Aircraft Co. IBM's Austin (Tex.) plant, which makes most of the circuit boards for IBM PCs and workstations, is currently cranking out notebook computers for CompuAdd Corp. and boards for a Taiwanese PC clonemaker.

But there's more to the trend than survival. TI earns healthy profits by assembling workstations for Sun Microsystems, PCs for Gateway 2000, and networking equipment for Wellfleet Communications and Cisco Systems. By those deals also help TI, a leading chip maker, land other business. For example, TI now builds versions of Sun's Sparc microprocessor and related microchips, and it also supplies design testing, and project-management services.

The Dallas-based company is one of the top three recipients of Sun's \$2 billion annual spending on contractors, says Mel Friedman, Sun's vice-president for corporate supplier management.

IBM and DEC also are hoping that contract manufacturing deals will lead to orders for their other products, such as chips and dis-

WHO'S BUILDING WHAT FOR WHOM

Company	Selected customers	Estimated 1993 contract revenues
IBM	Computers for Hitachi and CompuAdd, PC boards for clonemakers, diagnostic systems for Chrysler	\$500 million
TEXAS INSTRUMENTS	Computers for Sun Microsystems and Gateway 2000 and networking gear for Wellfleet Communications and Cisco Systems	\$225 million
DIGITAL EQUIPMENT	Computer boards for Apple Computer, in-flight entertainment systems for Hughes Aircraft	\$50 million
ICL	Computer boards for Sun Microsystems	\$80 million

DATA: MANUFACTURING MARKET INSIDER

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drives. "More and more of our customers want us to build our technology into end products, so this is a way for us to extend what we do and really be a strategic partner," says James O. Willis, DEC vice-president.

For fledgling computer makers, using an IBM or DEC factory can be a shortcut to decades of experience. Late last year Silicon Valley startup Alaris Inc. finished designing its first product, a low-cost PC motherboard. But Alaris skipped such contractors as Soletron Corp. in Milpitas, Calif., and SCI Systems Inc. in Huntsville, Ala., which in the 1980s built millions of IBM PC motherboards. Instead, founder Raymond Yu turned to IBM. Besides manufacturing, Big Blue offered to help design and test the board, he says, and it added an unheard-of three-year warranty. Better still, IBM will supply many of the chips Alaris needs, including an enhanced version of Intel Corp.'s 486 microprocessor. "I don't consider them a contractor," says Yu. "I consider them a partner."

'HOOPS OF FIRE.' Still, the newcomer won't last unless they can match the service and razorlike efficiency of traditional job shops, which range from dozens of mom-and-pop outfits in Taiwan to \$1 billion SCI, the biggest independent. Says CEO Olin B. King: "We haven't lost a deal" to IBM or its allies. "You have to be willing to jump through hoops of fire for the customers' slightest whim," he says, "but [the giants] are used to being captive suppliers."

To be sure, keeping up with competitors such as SCI has forced IBM to learn lots of new tricks. At the Austin facility General Manager William J. Amelio has slashed support staff by 30% and management ranks by 10% since 1986. He has also dropped the IBM tradition of building the plant's own production tools and buying only IBM components. The facility has won contracts from Compu Add, Advanced Micro Devices, and Western Digital, among others. Even Compaq Computer Corp. and Apple have looked in. Outside orders have accounted for 15% of the plant's output so far this year—from zero last July—and may hit 30% of Amelio's \$1.3 billion business by yearend. As with the company's operations in Charlotte, N.C. and Greenock, Scotland, Amelio's goal is a 50-50 mix of outside and IBM work.

But the big players still have lots to learn. Some—including Xerox, Tander Computers, and even Big Blue—have sold off plants to the contract manufacturers that seem to know better how to run them. More proof that in today's computer business, there's just no easy way to make a buck.

By Peter Barrows in Dallas

THE FACTORY GURU TINKERING WITH TOYOTA

Kitano's low-tech philosophy places a high value on workers

Kitano cap slightly askew, eyes bright above his salt-and-pepper beard, Mikio Kitano breezes into Toyota Corp.'s Motomachi factory, greets workers by name. Up rushes Deputy General Manager Yoshitaka Kimura to show him a fence of mismatched metal built to shield the rest of the factory from the intense lights coming out from the plant's final inspection site.

Kitano, Toyota's top production guru, takes frequent walkabouts in his company's factories. In this one, he had puzzled over why workers installing instrument panels were the aisle from the inspection site. He grimaced at each time he went. Then, he noticed the inspection lights hitting him in the eyes. "Excellent," Kitano proclaims as Kimura shows him the fence solved the problem. "And the part," he chuckles, "is that 'it was simple and cheap.'"

REALITY. For Toyota, "simple and cheap" ring like gospel these days. Mikio Kitano, 53, emerged as a key figure in helping the giant keep the

During the booming 1980s, Japan's makers—Toyota included—barreled long into factory automation to solve an expected labor shortage. But in a three-year sales slump, the jump of underutilized machines is looking high and expensive. Despite more than \$1 billion in cost-cutting from July to September, Toyota's operating margin slipped to a precarious 0.8%, says Stephen Usher of Kleinwort Benson International Inc. Kitano's job is to get the company's assembly lines back on course.

Kitano, a maverick engineer within Toy-

ota's sprawling bureaucracy, Kitano was named director of production engineering in 1990. Since then, he has been instituting the kinds of subtle, incremental changes that improve efficiency over time. His chief goal is to wean the company away from "showcase" factory automation that boosts costs without improving efficiency. He's not anti-automation: In the early 1980s, Kitano

MANUFACTURING THE KITANO WAY

1975 Kitano leads design of equipment to make exhaust systems that meet strict new U.S. emissions requirements

1982 While helping set up NUMMI, Toyota's U.S. joint venture with GM, Kitano demands all existing production equipment be scrapped to improve quality

1984 Against stiff criticism, Kitano pushes Toyota to adopt a flexible body-welding system now used in all plants

1990 Insists Toyota wasted money in overautomating final assembly and suggests paring automation in the new Kyushu plant

1993 Now turning to the heart of manufacturing, Kitano is in charge of producing better dyes and machines for Toyota's lines

DATA: BUSINESS WEEK

fought for robotics where machines could relieve monotonous or difficult tasks. But now, he rejects machines that merely overcomplicate. "The key to productivity is simplicity," he says. "Men control machines, not the other way around."

Toyota forgot that lesson in the late 1980s when, awash in sales, it began pumping cash into robotics. At the time, Kitano was spending a three-year stint at Toyota's California joint venture with General Motors Corp. When he returned in 1990, he was shocked. The new as-

sembly line at Toyota's Tahara plant was loaded with machines that needlessly replaced workers while intimidating those who remained. Concedes the current Tahara plant manager Tadaaki Jagawa: "Some of it was wasteful."

Upon being named to Toyota's board of directors that year, Kitano mounted a campaign to convince his colleagues they had gone too far. He streamlined the blueprints for automation at Toyota's new plant, which cranked up in December on the island of Kyushu, 400 miles southwest of Toyota City.

NO PALLETS. A walk through the Kyushu plant reveals several Kitano touches. At Tahara, for instance, a \$1.6 million system inserts the engine and drivetrain into the body of a car. Instead of being pulled by a chain, as they normally would be, the engines travel on independent pallets that move at their own



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speed. Kitano figured the pallets did little to improve efficiency but a lot to boost maintenance costs. So he revamped the line at Kyushu, ditching the pallets and knocking 75% off the system's price tag. Similarly, two robots attach wheels at Kyushu, instead of the four at Tahara—cutting costs significantly.

Fine-tuning automation, says Hosei University professor Koichi Shimokawa, was "an intelligent decision. Automation is not as flexible as a multiskilled worker." Others, including GM's successful

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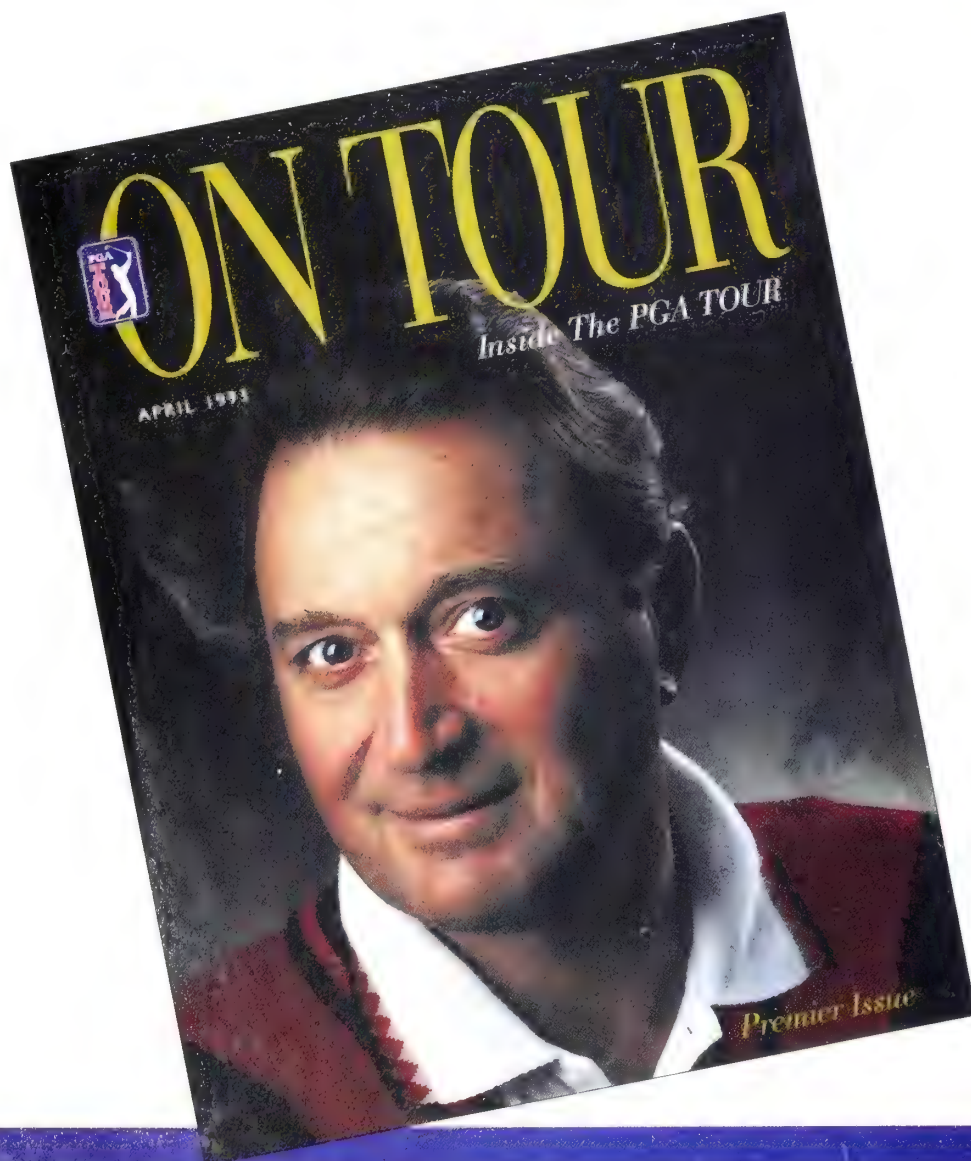
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urn division, have taken the same on to heart in their new plants. at Kitano did was to remind Toyota t it already knew: Let workers, not a counters, guide the way to pro- vity. In the same spirit, he reem- sized teamwork at Kyushu by break- the line into shorter, independent ks. Having control over a discreet ion of the line fosters a sense of au- my and pride among workers.

YOUR OWN. Kitano is not your al Japanese businessman. He has e patience for the perquisites or cer- ny that go along with his status at ota. He thanks his secretary when serves tea, even introducing her to ts by name. He pulls his four-wheel e Land Cruiser into an executive ing lot filled with chauffeured Lex- . He eschews heavy socializing and p before six most mornings to run at a track with his wife, Atsuko. round Toyota, he is known as a ren- de. Much of his career has been t needling management to let him his plans to work. That can be risky. he 1970s, he took on the sticky job esigning a line to produce exhaust ems to meet tough U.S. emissions . He missed the deadline and landed

in hot water (though the system ulti- mately performed well). More often, however, Kitano has proved his doubters wrong.

In the early 1980s, he was among the first to argue that Toyota adopt automa- tion to take over the tasks workers found most numbing. Body welding, for instance, was not only mindless work

Kitano's efforts to streamline Toyota's production lines couldn't come at a more crucial time

but could be done more precisely with machines. Convincing management, though, was another matter. Kitano had to beg for the \$9 million needed for a system that could weld several car mod- els on the same line. Skeptics circled, but when he introduced the prototype in 1984, the system spoke for itself. Within three years, every Toyota plant had one.

Kitano's delight in the system is still infectious. Instead of welding a car to-

gether piecemeal, it takes underbody, sides, and top—each on its own pallet—and swoops them together in a 50-sec- ond flash of dancing robotic arms. Viewed from a staircase above, a new car seems as if it has been plucked out of air. For Kitano, the motion crosses the line between technology and art. "It's like a sculptor bringing out the es- sence in a stone," he says.

The current sales slump has taken the poetry out of Toyota's more recent automation binge, however. Kitano's ef- forts to streamline production lines couldn't come at a more crucial time. U. S. sales for Japan's No. 1 auto maker sank 8.3% in the first quarter as Amer- icans balked at its high prices, turning to affordable domestic alternatives. With the yen strong and margins weak, the pressure on prices is up, not down.

Kitano has helped Toyota rediscover simplicity. But his long-term goal is to draw young people into the manufactur- ing work they now tend to shun. "I want to teach them to make things with their hands, to preserve that skill," he says. Good thing. Toyota will need all the young engineers it can find to keep it on the straight and narrow.

By Karen Lowry Miller in Toyota City

This announcement appears as a matter of record only.

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NEW DEMANDS FOR FLEET MANAGEMENT

Managing the corporate vehicle fleet is trickier than ever. The old standby issues of low maintenance, reasonable cost-per-mile, and high liquidation value are still critical. But today's fleet administrator must balance a whole host of new considerations as well.

These new factors show that companies are looking at the "true" cost of fleet operation in broader terms. As they do, they are demanding more and more sophisticated analysis from the people who control their fleet acquisition and operation decisions. More managers are leveraging their own expertise by marrying it with the administrative prowess of giant fleet leasing and management companies.

THE LEASING TREND

Leasing took hold in the world of commercial fleets well before it caught on in the retail vehicle market. Five years ago, about half of all corporate fleet managers leased, according to David F. Lefever, executive director of the National Association of Fleet Administrators Inc. (NAFA). Now, he says, about two-thirds do.

Changes in tax laws are partly

responsible for the move to leasing. So is the increasing need by corporations to husband their capital more closely. Just as in retail leasing, fleet leasing frees up the lessee's funds for use elsewhere.

"There's a very strong financial advantage for us to lease," says Jerry Albertini, manager of corporate services for Simplex Time Recorder Co. He reviews the lease-versus-buy option every three years in deciding how to maintain his fleet of 2,000 vehicles — all of which are currently provided by Wheels, Inc. of Des Plaines, Ill.

Fleet leasing is also more customized than retail leasing. "There's unlimited creativity," says NAFA's Lefever. Leasing companies provide virtually any administrative support imaginable for their customers. Many of these services burgeoned within the past five years following a dramatic consolidation of leasing companies in North America.

Still more consolidating — this time on an international scale — is possible. "Those with the deepest pockets will be the winners," predicts Donald F. Kreft, president and chief executive of Lease Plan International Corp. His company has nearly 300,000 vehicles under

lease worldwide, including 50,000 in the United States.

Kreft says the trend will be powered by the desire of big multinational companies to exercise central control over their fleets around the globe. "We can get quotes from any country and coordinate a fleet program to work like what they're used to in the United States," he says.

NAFA figures some 80% of commercial vehicle fleets are now supplied by large leasing companies. In turn, NAFA's 2,300 members in Canada and the United States are involved in the management of more than 2.7 million fleet vehicles worth \$1 billion.

SAFETY SELLS

For the general public, safety ranks near the top of the buying priority list. It's not much different for fleet managers these days. Many simply won't specify a new car that lacks airbags or antilock brakes.

One reason is that every fleet manager keeps a sharp eye on resale value when ordering new vehicles. They know safety equipment will pay off when it comes time to dispose of a fleet car or truck.

Safer cars can also save a company money by reducing lost work days and workers compensation claims. Consider figures from The Network of Employers for Traffic Safety (NETS), a coalition of business and insurance companies headquartered in Washington, D.C. NETS estimates that motor vehicle accidents cost American business more than \$16 billion in lost work-time each year. It figures on-the-job driving injury accidents average \$2,400 in workers compensation bills each.

Many businesses with fleets are beginning to offer driver's training programs as well. According to NETS, the average hospital bill is three times higher for drivers who didn't use their seat belts than for those who did.



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Chevrolet. The Heartbeat Of America.

Fleet operators are also taking the simple but effective step of checking the driving records of those who use their vehicles. The data can help reduce the frequency of accidents, thus lowering insurance costs, equipment downtime, and lost work days.

Do such efforts pay off? Just ask Albertini at Simplex Time Recorder. His company has been pushing safety for 10 years. In the past three years, he says, total accident costs have dropped 57%. Says Albertini, "We want to make our drivers as professional behind the wheel as they are before the customer."

CLEARING THE AIR

Fleets, especially those fueled and serviced centrally, have always been considered attractive testbeds for new power sources and alternative fuels. Now that role is being formalized by federal and state air pollution standards.

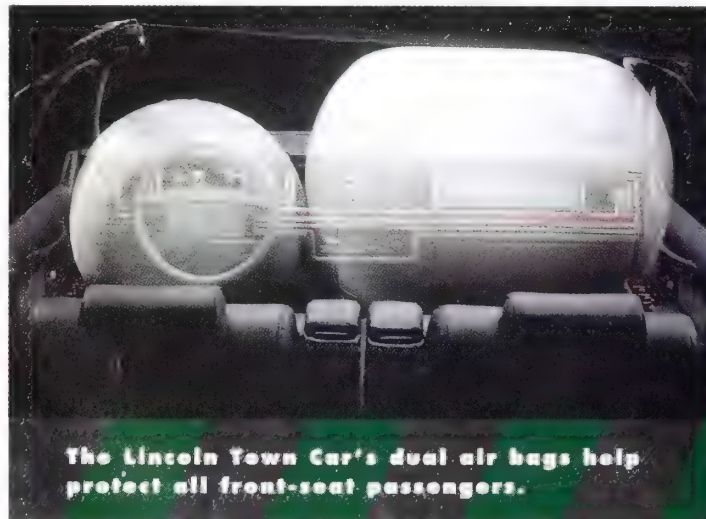
The Environmental Protection Agency has identified about two dozen regions in the United States that fail to meet air quality standards set by the Clean Air Act. States have flexibility in dealing with the problem, but one solution is to require certain fleets to buy lower-pollution vehicles.

Last year's National Energy Policy Act takes the quest for cleaner vehicles a step further. It mandates that any city over 200,000 population must have a portion of extra low polluting vehicles operating by the end of the decade. The federal government has committed to buying alternative fuel vehicles for some of its fleets. Meanwhile, California has been testing cars that run on natural gas, or various gasoline/methanol blends,

since 1988. Denver has mandated a move to alternative fuel vehicles for some fleets this year. Several other states are evaluating vehicles designed to run on compressed natural gas. Fleets are also looking at electric vehicles.

There's no question that alternative fuel vehicles can reduce air pollution. But what about their impact on fleet costs? Managers say it's almost impossible to calculate. For one thing, resale value is difficult to forecast because these vehicles burn fuel that isn't readily available to the general public. Then, too, such a vehicle requires a whole new set of fuel-cost-per-mile calculations.

NAFA confirmed the problem in a recent survey of fleets involved in California's methanol fuel test program. The modified cars were built to burn any mixture of gasoline and methanol from 100% gasoline to 85% methanol. Drivers and fleet managers agreed the modified cars perform just as well as conventional



vehicles. But the shortage of methanol fueling facilities sharply limits their appeal to the general public. Less than 11% of the drivers surveyed by NAFA said they'd buy a flexible fuel car, and 60% said they definitely would not. Says Lefever, "It was just too hard to find the fuel."

A MARRIAGE OF CONVENIENCE

Keeping up with the growing complexity of fleet management is no easy task. In most cases, managers are being asked to do more with less staff. For many, the answer lies in close partnerships with one or more outside firms that are expert in fleet administration. "In many cases, we and our clients become one," says W. James Noonan, senior vice-president for sales and marketing at PHH Vehicle Management Services.

Companies like PHH offer up a cornucopia of fleet management options. It's up to their clients to decide on the mix of services they want. Says Noonan, "What we're seeing is a growing movement away from adversarial management, and toward partnership management where both parties realize the advantage in working together to lower the cost of doing business."

These partnerships are redefining the role of outside fleet management companies. A decade ago they were called lease companies. Now they're known as fleet management companies. By the end of the decade, predicts Noonan, "They'll see us as consultants and information management companies."

In the beginning, these big companies focused on providing their customers with cars. Now they're routinely hired to handle titling, set up and track maintenance, train drivers, provide emergency repair coverage, investigate driving records, and dispose of the used vehicles as well.

THE FLEET MANAGER'S NEW ROLE

Does the surge in fleet support services mean the importance of the

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FLEET OPERATIONS



ALL TOGETHER BETTER

A LOOK AT RETAIL LEASING

If you drive a company car, it's probably leased. But what about your own set of wheels?

Experts figure as many as half of all new vehicles on the road may be leased by the end of the 1990s. The rate is already higher than that among many luxury brands. Leasing makes the most sense for consumers who drive 12,000 to 15,000 miles per year and who like to move into a new vehicle every two or three years.

Compared with buying, leasing lets you spend less per month on the vehicle of your choice. Or, you can spend no more than you would to buy and end up behind the wheel of a fancier vehicle. That's because you pay only for the depreciation of the vehicle (plus a finance fee) when you lease.

You can still find leases that require little or no down payment, an advantage if you're short on cash. Plunk down a little extra, however, and you can trim your monthly payments — just as you would if you bought instead.

These days you can even get a one-payment lease such as SmartLease Plus from General Motors Acceptance Corp. Your up-front payment is equal to the sum of the monthly lease payments you'd make, but at a discounted rate compared to a conventional lease.

The obvious downside to leasing is that you don't end up owning the vehicle.

Modern leases give you the option to buy anyway when the contract expires. Be aware however, that your total pay out will be more than if you purchased in the first place.

Still, leasing doesn't make sense for everyone. The experts say you are probably better off buying if you plan to:

- Drive more than 15,000 miles per year
- Keep your vehicle five years or more
- Add expensive aftermarket stereo equipment, alloy wheels, or a custom paint job.

fleet manager is waning? Hardly.

Today's competitive business environment all but forces fleet managers to assess a broader web of related cost issues. Savvy managers realize focusing only on the "nuts-and-bolts" of the vehicle administration isn't enough.

"These days, that isn't going to get the job done," says Sandra Klontz, vice-president of administration for Data Air Courier in Rosemont, Ill. "There are many other factors that have an effect on your program's bottom line."

Klontz uses an outside vendor to provide and track maintenance work on the 100-vehicle fleet of courier minivans she manages. But she's not ready to turn over her other administrative work to outsiders. "If you have the capability," she declares, "you might as well do it yourself."

The quandary many fleet managers face, however, is eroding in-house capability. For some, staff cut-backs leave them little choice but to look elsewhere for help. For others, it's a matter of being assigned additional responsibilities beyond fleet administration.

SHOPPING FOR THE RIGHT MIX

"Everybody's trying to become leaner and meaner," observes Carl Bergman, Fleet Manager for the Ford Division of Ford Motor Co. For many companies, he adds, "Outsourcing fleet management has been identified as something they can 'vendorize.'"

Jerry Albertini at Simplex Time Recorder is a case in point. He and five staffers have recently added risk management and facilities to their fleet responsibilities. "Vending out becomes a very appealing way of doing things," he says, especially given the mountain of paperwork involved in operating a fleet in 49



Chrysler Corp.'s new "LH" sedans offer roomy "cab forward" styling and sporty handling.

states. "I believe in passing down the decision-making process as far as I can, as long as we retain control."

Where does that balance lie?

There's no easy answer because the needs of companies vary so widely.

"You can't just put a service out there" and expect fleet managers to buy it, notes Theresa LeGrand, president and chief executive officer of GE Capital Fleet Service.

GE Capital, which handles more than 500,000 fleet vehicles in North America, touts its ability to analyze more accurately because of its huge database of experience. Like its competitors, GE Capital also emphasizes that it may achieve economies of scale to deliver lower prices on services than fleet operators could achieve on their own.

SALES AND SERVICE

Big leasing companies have another reason to promote value-added services. Simply put, that's where their growth will most likely occur in the 1990s.

It won't come from actual vehicle deliveries. Auto makers concede that the fleet sales outlook is flat. They also expect no revenue relief from any sudden shift away from midsize cars such as the Ford Taurus and Chevrolet Lumina — the mainstay of the fleet industry — and toward more profitable larger cars.

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SALUTING AMERICA'S MOST SAVVY FLEET MANAGERS

Recipients of the first annual Awards for Quality Fleet Management Ideas, sponsored by the National Association of Fleet Administrators, Inc. (NAFA) and Business Week magazine, were announced in April during NAFA's annual conference at Opryland in Nashville.

The five winners, listed below, were selected from 70 entries submitted in the United States and Canada.

➤ **Larry W. Giddens**, director, Fleet Operations, R.J. Reynolds Tobacco Co., Winston Salem, N.C. Implemented a \$75,000 electronic data interchange technology program that slashed paperwork, reduced staffing, and cut overall operating expenses by \$800,000 annually.

➤ **Bill MacDonald**, manager, corporate operations office, Ontario Ministry of Transportation, Downsview, Ontario Spent \$10,000 to computerize the bid process on 1,500 vehicles, saving \$550,000 annually and reducing turnaround time from four months to four weeks.

➤ **Windell T. Mitchell**, manager, fleet service, King County Public Works Dept., Seattle, Washington Developed several customized computer reports to monitor productivity in maintenance, repair, and vehicle replacement cycling. Results dramatically increased vehicle uptime and cut costs by more than \$262,000 annually.

➤ **Ron Pink**, business manager, vehicle fleet business, Xerox Corp., Rochester, N.Y. Spent \$2,500 to develop a scannable expense report that reduced staffing for expense processing by more than 90% while reducing overall document processing costs from \$3.2 million to \$144,000.

➤ **Peggy Williams**, corporate contract administrator, Pratt & Lambert, Inc., Buffalo, N.Y. Invested \$850 on mapping software to replace conventional spreadsheet reports, saving up to \$3,000 per new fleet vehicle ordered.

David John, manager of marketing and product planning for fleet operations at General Motors Corp. "But you don't need a six-passenger vehicle."

Fortunately for manufacturers, the fleet business is more consistent and predictable than the fickle retail market. On average, fleets continue to retire their vehicles like clock-work every 2½ to 3 years.

Not that they really have to. Traditionally, the turnover cycle reflected the expected service life for such components as tires, shocks, and mufflers. Those components last longer in today's more durable cars, but so far fleet managers haven't extended their trade-in cycles.

In the meantime, it's a buyers' market for fleet vehicles and fleet services. Competition is unusually fierce between manufacturers, among service providers, and with each other.

Ford, for one, is pushing hard to regain fleet service business captured by leasing companies and other independent maintenance companies. It competes directly with lease companies with an extended service plan and centralized billing for fleets who buy Ford cars and trucks. The objective is to route repairs back through franchised Ford dealerships.

HOW MUCH OUTSOURCING?

The decision to seek outside help to manage a fleet is never made lightly. But providers say they can present a stronger case now because they have established a clear performance record in recent years. "A few years ago, many of these services were in the early stages of adoption," notes PHH's Noonan. "It was more difficult to demonstrate savings."

Not all fleet managers are convinced, though. Some figure they

know more about the peculiarities of their own fleets than any outsider can. Others acknowledge that they're simply not comfortable about assigning sensitive administrative work to others.

"I can't bring myself to turn it over," acknowledges Robert P. Egerss, fleet administrator for Preferred Risk Insurance Group in West Des Moines, Iowa. Egerss has shrugged off overtures by big leasing



Ford's extended-length Super Club Wagon seats up to 15 passengers.

companies to help him monitor his company's 200-vehicle fleet of cars, vans, and trucks – even though he has recently taken on responsibility for handling employee relocations as well. "Leasing companies tell us they can't buy cars for less than I can," Egerss says. "And we sell our cars for more than they could." Overall, he contends, "My experience is just as good as theirs is."

Managers like Egerss also point out the obvious: The services provided by big lease companies don't come free. Nor do they necessarily make sense in every fleet situation.

But experts believe the trend toward outsourcing more and more fleet administrative work is irreversible. The key to determining the rate, they say, is how well service providers and their customers can form true partnerships to reduce overall fleet operating costs.

*Text by Bill Hampton,
a Detroit-based automotive writer.
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WELL, IT LOOKED LIK

THANKS TO COST-CUTTING, FIRST-QUARTER PROFITS ROSE BY 27%—BUT

Is the party already winding down? Buoyed by election euphoria and holiday cheer, the country finished off last year with a bang. With the U.S. economy finally heating up, corporate profits shot up 51% in the fourth quarter. That torrid growth, however, was bound to be unsustainable—as BUSINESS WEEK's latest Corporate Scoreboard reveals. First-quarter profits for the 900 companies on the Scoreboard jumped by 27%. That's certainly still a robust performance, especially compared with the 7% profit gain of a year ago. The worry is that profit growth may contract in the next few quarters, with the recovery slowing down, sales growth remaining anemic, and productivity gains increasingly hard to come by.

The economic revelry was clearly muted in the first quarter, when gross domestic product grew by an annual rate of just 1.8%, compared with 4.7% in the fourth quarter of 1992. Says economist Lacy H. Hunt at HSBC Holdings PLC: "It's an economy growing at a crawl." Revenues also continue to grow at a sluggish pace. First-quarter sales crept up by a modest 5%, to \$985.2 billion. So where did the hefty profit gain come from? Mostly cost-cutting, as companies further trimmed overhead, notably payrolls. "The reason we're getting the profits is that companies are holding the line on labor costs. They're taking the productivity gains and reaping the income growth from that," says Goldman, Sachs & Co. Senior Economist Edward F. McKelvey.

The weak sales numbers don't bode well for the rest of 1993. Many economists fear companies have already realized most of the benefits of

restructuring. That means profits will have little room for growth if the economy doesn't pick up. For all of 1993, earnings are expected to rise 17%, and by a mere 11% in 1994, McKelvey estimates, compared with a 20% gain in 1992.

One first-quarter profit standout that may be facing future pressure is cigarette and food giant Philip Morris Cos. The company managed to hold on to its No. 1 position in BUSINESS WEEK's rankings of the top 15 profit performers. Earnings climbed 11%, to \$1.2 billion, thanks to surging sales abroad of everything from cigarettes to Oscar Mayer meats. But whether Philip Morris will re-

main in first place for long is another matter. In April, it announced plans to cut prices on its premium-brand smokes such as Marlboro in an attempt to stem defections to discount brands.

GAINING SPEED. Retailers as a group posted the strongest profit growth in any industry for the first quarter—287%, to \$4.4 billion, on an 11% increase in sales. But that figure largely represents the happier days of late last year. The last quarter for most retailers ended in January and includes holiday sales.

WINNERS AND LOSERS

THE INDUSTRIES

THE SHARPEST GAINS

	Percent change from 1992's first quarter
RETAILING	287%
FOREST PRODUCTS	236
BROADCASTING	161
AUTO PARTS	138
SEMICONDUCTORS	103
CONSTRUCTION & REAL ESTATE	69
MACHINE & HAND TOOLS	62
OIL & GAS	47
COMPUTER SOFTWARE	46
BANKS—WEST & SOUTHWEST	44
GAS UTILITIES	41
BANKS—MIDWEST	39
TEXTILES	37
DRUG DISTRIBUTION	34
ELECTRONICS	33

THE DEEPEST DROP

	Percent change from 1992's first quarter
AIRLINES	
STEEL	
BUILDING MATERIALS	
ALUMINUM	
PAPER CONTAINERS	
COMPUTERS & PERIPHERALS	
PRINTING & ADVERTISING	
OTHER METALS	
COAL	
INSTRUMENTS	
FOOD DISTRIBUTION	
TRUCKING & SHIPPING	
PAPER	
PETROLEUM SERVICES	
FOOD PROCESSING	

ALL-INDUSTRY AVERAGE: +27%



LEAR SAILING

MENTUM MAY BE SLIPPING AWAY

from November and December. The profit advance also has to be weighed against the poor results of a year ago. That is especially true of J.C. Penney. Its profits jumped a stunning 914% compared with the same period of 1992, when the retailer earned just \$37 million after a \$264 million restructuring charge. Carter Hawley Hale Stores, Federated Department Stores, R.H. Macy, and Woolworth all also chalked up substantial profit gains when compared with their sluggish earnings last year.

The auto industry likewise scored impressive results. Detroit's Big Three, which have been steadily downsizing in recent years, all made money in the first quarter—the first time that has happened since the second quarter of 1990. Their bottom-line performance also earned each a place among the 15 top profit makers of the first quarter. "It shows the power of cost-cutting when they finally get around to it," notes economic consultant A. Gary Schilling. "It took them a long time."

Still, most of the credit for profit gains at General Motors Corp. and Ford Motor Co. goes to non-auto operations. GM's

Hughes Aircraft Co., Electronic Data Systems Corp., and its finance unit generated much of the company's earnings. GM made \$513.2 million in the first quarter, compared with a loss of \$166.7 million in the first quarter of 1992. Similarly, Ford's finance unit chipped in a large portion of the auto maker's 157% profit gain, to \$572 million.

By contrast, Chrysler Corp.'s improved profits, analysts say, have a lot to do with continued cost-cutting and well-received new models, such as the LH sedans and the Jeep Grand Cherokee. Chrysler's first-quarter sales rose by 33%, to \$10.9 billion. Profits soared to \$530 million, compared with a loss of \$231 million in 1992's first quarter.

1ST-QUARTER PROFITS

THE COMPANIES

MADE THE MOST WHO LOST THE MOST

	Millions of dollars		Millions of dollars
ORRIS	\$1,218	CHASE MANHATTAN	\$347
	\$1,185	IBM	285
ELECTRIC	1,085	AMDAHL	240
	996	UAL	138
T STORES***	750	DELTA AIR LINES**	134
	614	USG	129
AYERS SQUIBB	575	CAMPBELL SOUP*	116
TOR	572	IMC FERTILIZER**	114
	548	LAFARGE	73
*	535	SALOMON	65
	530	STONE CONTAINER	63
& GAMBLE	516	USAIR	61
MOTORS	513	NATIONAL STEEL	54
& JOHNSON	503	JAMESWAY***	43
	501	BETHLEHEM STEEL	41

1st quarter **Fiscal third quarter ***Fiscal fourth quarter

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.



CUTBACKS. Even with a tepid rebound in housing starts, forest-product profits surged 236% after lumber prices doubled in October. The shrinking timber supply, following logging cutbacks to protect the spotted owl, was behind the price surge. The big winners: owners of private timberland such as Louisiana-Pacific Corp., whose profits jumped 144%, to \$87.7 million, and Weyerhaeuser Co., up 105%, to \$177.4 million.

The computer industry included many big winners, as Compaq Computer and Cray Research enjoyed strong comebacks and clonemaker Dell Computer maintained its momentum. All had triple-digit profit hikes and healthy sales gains. Yet that didn't offset Big Blue's blues: The industry posted a 71% decline in profits, largely because of IBM's \$285 million loss. Chase Manhattan Corp. beat out IBM to log the greatest loss for the quarter. Excluding accounting adjustments that pushed it back into



Corporate Scoreboard

the black, the bank lost \$347 million because of a special provision to further mark down \$2 billion in troubled real estate assets.

The booby prize for industry performance, though, goes to the airlines. The seven publicly traded carriers lost a staggering \$345.1 million in the first quarter, little better than the year-ago quarter's \$394 million in red ink. The

industry is still plagued by excess capacity that may take another year to remedy. The biggest loser was UAL Corp., parent of United Airlines Inc., which lost \$138 million, compared with a \$108 million loss in the same period of 1992.

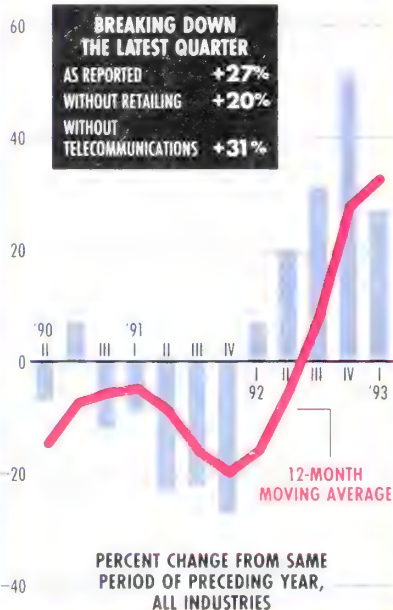
This quarter's results make many economists nervous. Corporate America thought it was seeing a real turnaround in the fourth quarter of 1992 and started

amassing inventory to meet expected sales growth early this year. Inventory levels haven't been this high since the beginning of 1989, notes HSBC's Hunt. Sales remain lax, he believes the economy might grow at roughly the same 1.8% pace in the coming year. If so, the sluggish first quarter will have been more than just a groggy morning after.

By Elizabeth Lesly in New York

A SPOTLIGHT ON FIRST-QUARTER PROFITS

AFTERTAX PROFITS, QUARTER BY QUARTER



INDUSTRIES WITH THE BIGGEST DOLLAR CHANGE IN THE QUARTER

The January-March period was the fifth straight quarter of positive earnings. The big dollar changes were all on the plus side—with the sole exception of computers and peripherals, zapped by IBM's loss. Sales continued to grow at a relatively modest 5% clip.



A LOOK AT PROFITS FROM THE INVESTOR'S PERSPECTIVE

RETURN ON EQUITY

LATEST 12 MONTHS



EARNINGS GROWTH

ANNUAL PER-SHARE AVERAGE LATEST 5 YEARS



PRICE-EARNINGS RATIO

LATEST 12 MONTHS' EARNINGS APR. 23 PRICE



CORPORATE SCOREBOARD

FIRST QUARTER 1993

GLOSSARY

Revenues: Includes all sales and other operating revenues. For banks, includes all operating revenues.

Profits: Net income before extraordinary items and discontinued operations. For banks, profits include net income after security gains or losses.

Margins: Net income before extraordinary items as percent of sales.

Return on invested capital: Ratio of net income before extraordinary items and

discontinued operations, plus minority interest and interest expenses adjusted by tax rate (all for most recent 12 months), to latest available total funds invested in company.

Return on common equity: Ratio of net income available for common stockholders (most recent 12 months) to latest available common equity, which includes common stock, capital surplus, and retained earnings.

Price-earnings ratio: Based on Apr. 23 stock price and earnings for latest 12 months.

Growth in common equity: Annual percentage growth in common equity for latest 5-year period.

Growth in earnings per share: Annual percentage growth in earnings per share, including all common stock equivalents for latest 5-year period.

Market value: Latest available shares outstanding times stock price on Apr. 23, 1993.

Earnings per share: For latest 12 months; includes all common stock equivalents.

COMPANY	SALES		PROFITS		MARGINS		RETURN			5-YEAR GROWTH		MARKET VALUE SHARES OUTSTANDING 4-23 \$ MIL	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 %	1ST QUARTER 1992 %	ON INVESTED CAPITAL %	ON COMMON EQUITY %	P-E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %		
ALL-INDUSTRY COMPOSITE	985183.9	5	51645.5	27	5.2	4.3	8.2	11.4	22	4	6	3335217	1.75
AEROSPACE													
INDUSTRY COMPOSITE	23347.2	-8	905.7	9	3.9	3.3	13.2	15.5	10	5	14	37438	4.48
Boeing	6644.0	-17	325.0	-23	4.9	5.3	15.5	18.1	9	11	31	12898	4.41
Boeing Corp (1)	401.5	-13	6.1	177	1.5	0.5	8.2	12.1	15	11	10	400	0.82
General Dynamics	878.0	4	41.0	37	4.7	3.5	NA	NA	13	2	-6	3003	7.20
Grumman	871.8**	-8	34.2	17	3.9	3.1	14.6	15.2	10	3	29	1182	3.70
Lockheed	2508.0	13	76.0	15	3.0	3.0	13.0	17.5	10	0	6	3689	5.81
Martin Marietta	1168.6	-15	76.4	2	6.5	5.4	17.9	21.6	10	16	9	3424	7.32
McDonnell Douglas	3618.0	-11	179.0	795	4.9	0.5	21.2	26.4	2	2	12	2279	23.53
Northrop	1275.0	-2	52.0	10	4.1	3.6	10.7	10.0	15	6	12	1849	2.65
Bohr (5)	342.1	11	2.8	-67	0.8	2.8	NM	-1.4	NM	5	-46	161	-0.36
Boeing-Strand	340.7	1	25.2	42	7.4	5.3	14.0	17.1	17	2	20	1518	2.51
Boeing-Strand	157.6**	19	8.6	8	5.4	6.0	10.6	13.6	15	16	8	494	1.90
Boeing (6)	277.9	-19	15.4	2	5.6	4.5	13.9	15.4	7	NA	NA	415	3.14
United Technologies	4864.0**	-6	64.0	-32	1.3	1.8	4.5	-1.1	NM	-5	NA	6127	-0.13
AUTOMOTIVE													
INDUSTRY COMPOSITE	83939.6	12	1946.8	NM	2.3	NM	0.7	-2.1	NM	-9	-16	88880	-0.30
CARS & TRUCKS													
GROUP COMPOSITE	74607.0	12	1639.7	NM	2.2	NM	-0.4	-6.2	NM	-11	NA	68991	-0.99
Chrysler	10900.0**	33	530.0	NM	4.9	NM	9.5	15.8	10	0	-32	11725	3.85
Ford Motor	26763.0	9	572.0	157	2.1	0.9	NM	-2.5	NM	-3	NA	25882	-0.80
General Motors	34956.2**	8	513.2	NM	1.5	NM	NM	-43.5	NM	-24	NA	28627	-3.90
Navistar International (2)	1033.0	15	-5.0	NM	NM	NM	NM	NM	NM	-23	NA	671	-0.60
Packard Truck (3)	154.3	-6	2.1	-34	1.4	2.0	5.0	5.7	11	1	-35	74	0.76
Paccar	800.5	27	27.4	154	3.4	1.7	NA	7.9	25	5	-21	2012	2.42
PARTS & EQUIPMENT													
GROUP COMPOSITE	6238.5	13	194.8	138	3.1	1.5	9.2	14.6	20	-3	-8	11629	1.89
Arvin Industries	476.0	4	6.1	69	1.3	0.8	8.4	9.5	18	2	-2	751	1.89
Cummins Engine	1048.4	19	41.1	722	3.9	0.6	14.6	23.7	16	-8	NA	1578	5.58
Pana	1323.5**	12	23.5	63	1.8	1.2	NM	10.1	43	-3	-33	2256	1.14
Packard-Picher Industries (1)	147.0	10	6.7	63	4.5	3.0	NM	NM	1	NA	-8	34	2.87
Boeing	1034.0	9	50.0	61	4.8	3.3	12.6	16.5	20	-2	-13	3075	4.50
Boeing (4)	437.3	6	15.6	39	3.6	2.7	9.5	11.0	19	2	1	1425	1.32
Federal-Mogul	410.5	38	7.5	NM	1.8	0.2	3.7	2.3	84	-14	NA	434	0.23
Dayes Wheels International (11)	408.7	2	3.6	NM	0.9	NM	NA	5.2	51	NA	NA	167	0.40
Masco Industries	456.1	18	17.5	111	3.8	2.1	6.5	10.9	27	-3	-4	990	0.62
Smith (A.O.)	296.1	17	13.0	177	4.4	1.9	9.3	14.5	11	NA	-33	404	3.65
Standard Products (6)	200.9	28	10.1	89	5.1	3.4	17.6	19.9	15	2	-9	516	2.94
TIRE & RUBBER													
GROUP COMPOSITE	3094.1	2	112.3	32	3.6	2.8	16.0	20.7	16	5	-16	8260	3.23
Cooper Tire & Rubber	280.1	4	25.2	34	9.0	7.0	21.1	23.2	26	17	27	2923	1.37
Goodyear Tire & Rubber	2814.0	1	87.1	32	3.1	2.4	15.2	20.1	14	3	-19	5337	5.40

First quarter ended Feb. 28. (2) First quarter ended Jan. 31. (3) Second quarter ended Mar. 31. (4) Second quarter ended Feb. 28. (5) Second quarter ended Jan. 31. (6) Third quarter ended Mar. 31. (7) Third quarter ended Feb. 28. (8) Third quarter ended Jan. 31. (9) Fourth quarter ended Mar. 31. (10) Fourth quarter ended Feb. 28. (11) Fourth quarter ended Mar. 31. *Sales include excise taxes. **Sales include other income. ***Sales include excise taxes and other income. †Revenues from some major subsidiaries are not included in consolidated sales; parent's share of earnings is included in profits. NA = not available. NM = not meaningful. Earnings per share are for latest 12 months, not necessarily for end of most recent year; they include all common stock equivalents but exclude extraordinary items.

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4-23 \$ MIL	12 MONTH EARNING PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P-E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
3 BANKS														
INDUSTRY COMPOSITE	51803.9	2	5138.4	25	9.6	7.9	13.7	12.8	13	13	2	218325	3.20	
(a) BANKS - EAST GROUP COMPOSITE	28015.7	3	1971.7	12	6.4	6.3	16.7	13.0	12	7	-11	87283	3.20	
Bank of Boston	1338.4	2	50.2	28	3.8	3.0	20.8	10.0	11	-1	46	1906	2.10	
Bank of New York	881.0	-4	125.0	56	14.2	8.7	11.9	12.2	11	17	1	4387	4.88	
Bankers Trust New York	1755.0	10	230.0	49	13.1	9.7	31.3	23.8	7	1	158	5822	9.75	
Chase Manhattan	3819.0	33	-347.0	NM	NM	4.9	NA	0.4	NM	7	NA	4976	0.21	
Chemical Banking	3049.0	-5	339.0	30	11.1	8.1	NA	12.6	9	26	-44	9348	4.11	
Citicorp	7907.0	-1	370.0	102	4.7	2.3	12.4	8.6	17	0	-23	10170	1.66	
CoreStates Financial	487.8	-10	73.3	24	15.0	10.9	12.2	16.3	12	11	-1	3197	4.73	
First Empire State	212.1	-7	24.3	-12	11.5	12.1	16.8	15.4	12	9	14	1024	12.91	
First Fidelity Bancorporation	599.5	-5	92.6	41	15.4	10.4	14.9	15.8	11	8	45	3381	4.18	
Fleet Financial Group	1137.5	-1	106.3	111	9.3	4.4	8.1	12.8	15	7	-14	3994	2.13	
Integra Financial	283.4	4	39.8	76	14.0	8.3	15.9	20.1	9	16	9	1094	4.97	
KeyCorp	680.5	1	94.9	30	13.9	10.8	NA	13.3	12	15	14	3882	3.34	
Mellon Bank	799.0	2	34.0	-60	4.3	11.0	NA	16.0	9	20	31	3078	5.91	
Meridian Bancorp	246.5	-9	24.3	-10	9.9	10.0	12.3	12.4	12	11	0	1396	2.47	
Midlantic	260.7	-32	-15.5	NM	NM	NM	2.1	2.1	41	-11	-58	975	0.52	
Morgan (J. P.)	2884.0	18	432.0	64	15.0	10.8	31.9	22.8	11	5	53	13101	6.50	
PNC Bank	NA	NA	187.0	49	NA	11.9	19.4	15.7	12	11	-1	7442	2.57	
Republic New York	572.5	-2	68.7	14	12.0	10.3	9.1	13.5	10	12	63	2466	4.56	
Shawmut National	474.8	-16	-16.5	NM	NM	5.9	8.2	0.0	NM	-6	NA	1966	0.01	
State Street Boston	357.4	2	42.7	18	11.9	10.4	25.2	17.5	15	16	14	2430	2.19	
UJB Financial	270.7	-6	16.5	73	6.1	3.3	7.7	6.5	20	5	-24	1246	1.21	
(b) BANKS - MIDWEST GROUP COMPOSITE	9718.5	-3	1423.4	39	14.6	10.2	12.9	12.8	15	19	59	60112	2.75	
Banc One	1734.3	-5	272.3	59	15.7	9.4	NA	14.6	15	25	14	14169	3.67	
Boatmen's Bancshares	485.0	-2	70.3	27	14.5	11.1	13.8	13.2	12	19	8	2824	4.80	
Comerica	543.9	-9	80.7	7	14.8	12.5	10.9	11.5	15	27	7	3475	1.98	
Continental Bank	435.0	-8	61.0	7	14.0	12.0	NA	14.9	7	17	-14	1269	3.51	
Fifth Third Bancorp	231.4	8	44.6	23	19.3	16.8	15.7	16.6	20	20	14	3399	2.89	
First Bank System	474.4	0	63.7	32	13.4	10.1	7.1	5.9	24	7	15	2725	1.21	
First Chicago	1149.7	1	179.1	106	15.6	7.7	NA	-1.6	NM	13	NA	3221	-1.19	
First of America Bank	448.9	-4	58.6	22	13.1	10.2	12.5	13.4	13	22	0	2195	3.03	
Firststar	297.2	-1	50.0	35	16.8	12.3	17.1	16.7	12	21	3	2140	2.81	
Huntington Bancshares	314.9	6	47.3	48	15.0	10.7	17.1	16.4	13	13	13	2055	2.00	
National City	658.3	-9	95.3	16	14.5	11.3	15.0	15.0	12	18	8	4023	4.32	
NBD Bancorp	793.8	-5	115.1	16	14.5	11.9	13.4	12.7	15	15	6	5333	2.20	
Northern Trust	308.3	-1	40.2	12	13.0	11.5	NA	17.5	17	20	5	2391	2.72	
Norwest	1253.9	5	150.2	31	12.0	9.6	11.5	15.7	13	24	6	7219	3.72	
Society	589.5	-7	95.0	115	16.1	7.0	15.9	19.2	11	28	-6	3673	2.94	
(c) BANKS - SOUTH & SOUTHEAST GROUP COMPOSITE	5810.9	-7	914.4	25	13.4	10.0	15.9	14.1	12	19	2	39044	3.52	
Barnett Banks	805.5	-10	92.3	37	11.5	7.6	NA	9.1	19	10	-16	4156	2.21	
Crestar Financial	262.5	-6	30.9	126	11.8	4.9	11.8	10.0	15	10	-8	1498	2.75	
First Union	1371.2	-2	200.0	139	14.6	6.0	13.1	15.3	10	16	5	6275	4.40	
NationsBank	2375.0	-13	281.0	-9	11.8	11.4	17.1	14.1	11	40	-1	12428	4.42	
Signet Banking	270.4	3	38.3	74	14.2	8.4	17.7	15.2	13	8	16	1574	4.46	
SouthTrust	262.4	14	34.8	35	13.3	11.2	13.6	14.3	12	16	9	1490	2.60	
SunTrust Banks	774.4	-6	115.5	13	14.9	12.4	16.1	15.9	13	10	8	5494	3.40	
Wachovia	689.5	-4	121.6	15	17.6	14.7	18.6	16.2	14	16	7	6130	2.60	
(d) BANKS - WEST & SOUTHWEST GROUP COMPOSITE	7258.8	13	829.0	44	11.4	9.0	7.6	11.1	13	21	-1	31886	3.79	
Bancorp Hawaii	233.0	-3	33.0	8	14.2	12.8	18.9	14.4	12	20	11	1357	4.19	
BankAmerica	4014.0	39	484.0	60	12.1	10.5	7.2	11.8	11	34	12	16428	4.23	
First Interstate Bancorp	985.7	-10	119.5	97	12.1	5.5	8.6	10.7	15	5	NA	4267	3.86	
U.S. Bancorp	472.9	-3	61.5	31	13.0	9.7	11.3	14.1	12	12	13	2514	2.16	
Union Bank	324.2	-9	23.0	68	7.1	3.8	10.7	10.4	13	10	-8	1281	3.11	
Wells Fargo	1229.0	-8	108.0	-9	8.8	8.9	5.2	6.8	27	11	-15	6040	4.07	
4 CHEMICALS														
INDUSTRY COMPOSITE	32270.1	0	1727.3	6	5.4	5.0	7.6	9.4	28	3	-10	122911	1.45	
Air Products & Chemicals (3)	833.9	5	75.3	3	9.0	9.2	10.0	13.7	18	13	9	5030	2.50	
American Cyanamid	1401.3	2	118.7	3	8.5	8.3	14.0	14.7	12	8	4	4583	4.42	
Arco Chemical	767.0	1	52.0	-15	6.8	8.0	8.3	11.5	22	8	-23	4197	1.96	
Betz Laboratories	168.5	-4	19.2	-5	11.4	11.4	19.4	24.9	18	7	16	1397	2.67	
Dexter	217.2	-11	7.7	-14	3.6	3.7	9.6	12.1	16	1	-1	605	1.53	
Dow Chemical	4363.0**	-6	402.0	126	9.2	3.8	7.8	6.1	31	8	-26	15163	1.81	
Du Pont	9070.0***	-1	493.0	12	5.4	4.8	7.1	8.8	34	-2	-11	35016	1.52	
Engelhard	490.2**	-22	22.2	-2	4.5	3.6	14.2	15.3	22	-1	8	2225	1.51	

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4/23 \$ MIL.	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4/23	COMMON EQUITY %	EARNINGS PER SHARE			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Amgen	829.0	22	71.9	15	8.7	9.2	12.3	19.9	12	7	5	3329	2.35	
Amgen	258.1	-5	13.1	2	5.1	4.7	14.5	17.1	16	3	-20	865	1.90	
Amgen-McMoran	300.8	-17	-30.0	NM	NM	1.5	11.6	146.6	22	-28	-11	2800	0.91	
Amgen (H. B.) (1)	228.1	4	3.0	-51	1.3	2.8	12.0	13.0	17	9	9	541	2.33	
Amgen Georgia Gulf	181.9	-4	10.1	-22	5.6	6.8	27.1	NM	18	NA	-25	797	1.07	
Amgen Woodrich (B. F.)	598.8	-1	-7.6	NM	NM	NM	NM	-3.2	NM	-2	NA	1194	-0.91	
Amgen Trace (W. R.)	1240.9	2	28.3	27	2.3	1.8	4.2	5.5	41	3	-9	3495	0.94	
Amgen Great Lakes Chemical	430.2	25	64.2	21	14.9	15.4	23.9	23.2	20	22	26	4990	3.42	
Amgen (M. A.)	370.4**	25	4.4	83	1.2	0.8	6.6	7.0	20	5	-9	676	1.47	
Amgen Hercules	672.0	-10	43.9	19	6.5	5.0	9.0	10.0	19	-4	-21	3188	3.91	
Amgen Fertilizer Group (6)	222.8	-17	-113.7	NM	NM	14.4	NM	-13.2	NM	4	-5	755	-3.73	
Amgen International Specialty Products	146.2	3	11.5	-33	7.9	12.0	NA	NA	12	NA	NA	612	0.52	
Amgen Acetate	149.1	1	19.7	0	13.2	13.3	19.3	18.9	20	18	19	1428	1.99	
Amgen Lubrizol	367.3	-12	35.4	-20	9.6	10.6	13.5	14.7	19	6	11	2156	1.69	
Amgen Wendell Petrochemical	1064.0	4	-8.0	NM	NM	NM	10.5	NM	60	-5	-57	1980	0.41	
Amgen Monsanto	1941.0	-2	141.0	-3	7.3	7.4	NM	-4.4	NM	-4	NA	6641	-1.01	
Amgen Morton International (6)	648.3	17	49.4	20	7.6	7.4	11.2	12.4	23	11	8	3572	3.16	
Amgen Alco Chemical	339.0	4	35.1	6	10.4	10.1	15.6	23.8	17	5	12	2319	1.93	
Amgen L Industries	198.5	-12	-13.5	NM	NM	NM	NM	NM	NM	NA	NA	248	-1.00	
Amgen Lin	591.9	-4	11.7	-51	2.0	3.9	5.2	3.7	26	0	-10	845	1.68	
Amgen Maxair	594.0	-9	33.0	6	5.6	4.7	12.6	14.7	28	NA	NA	2343	0.65	
Amgen Quantum Chemical	644.7**	2	-15.2	NM	NM	NM	NM	NM	NM	NA	NA	403	-4.04	
Amgen Ohm & Haas	826.0**	16	59.0	4	7.1	8.0	9.3	13.1	24	3	-4	4113	2.52	
Amgen Schulman (A.) (4)	161.9**	-7	7.9	-19	4.9	5.6	14.0	14.6	21	19	17	885	1.40	
Amgen Union Carbide	1193.0	1	42.0	0	3.5	3.5	9.0	8.4	26	2	-21	2641	0.77	
Amgen Tellman	208.0	0	21.8	75	10.5	6.0	9.6	12.8	11	35	10	687	1.88	
Amgen Wico	553.2	32	18.8	-1	3.4	4.5	7.2	8.7	23	3	0	1195	2.36	

CONGLOMERATES

INDUSTRY COMPOSITE	37329.3	2	1918.7	21	5.1	4.4	10.4	12.7	23	1	3	135101	2.58
Amgen Standard (3)	1490.6**	25	29.5	27	2.0	2.0	9.2	12.9	19	8	2	2143	2.39
AmgenSignal	2901.0	-3	149.0	22	5.1	4.1	16.1	25.0	17	-5	4	9400	3.98
Amgen Industries	339.9	1	17.5	NM	5.1	NM	37.5	NM	13	NA	NA	1118	1.22
Amgen	778.8	-1	14.6	29	1.9	1.4	6.1	7.7	55	-12	-31	1812	0.70
Amgen International	281.8	-6	6.3	-30	2.2	3.0	6.3	6.5	12	4	-10	333	1.47
Amgen Industries	263.9	-4	-4.9	NM	NM	NM	3.9	3.1	26	-9	-29	199	0.46
Amgen Electric	12900.0**	4	1085.0	13	8.4	7.8	16.9	18.9	18	7	15	79662	5.18
Amgen Host (11)	164.7	16	0.6	-12	0.4	0.5	NM	1.9	56	-6	NA	162	0.16
Amgen General (2)	942.2**	7	31.8	18	3.4	3.0	8.1	12.6	22	-3	5	2484	1.50
Amgen	5100.0	0	175.0	27	3.4	2.7	NM	-3.7	NM	0	NA	9510	-2.18
Amgen (5)	167.5	1	3.3	-83	1.9	11.4	15.1	15.6	30	15	12	2303	0.67
Amgen International	706.1	4	24.0	26	3.4	2.8	1.8	1.3	NM	2	-33	1586	0.28
Amgen International (3)	2694.0	-2	136.9	38	5.1	3.6	15.4	19.1	13	-1	-2	6795	2.38
Amgen	636.5	-11	33.8	186	5.3	1.6	10.3	15.4	16	-32	-37	1067	1.23
Amgen	3247.0	1	74.0	111	2.3	1.1	NM	-50.0	NM	-15	NA	6760	-4.61
Amgen	2163.9	9	82.8	19	3.8	3.5	7.9	13.6	12	NA	4	4225	3.87
Amgen	2029.0	0	51.0	38	2.5	1.8	11.6	14.7	20	1	-6	4137	3.29
Amgen	522.5	5	8.4	59	1.6	1.1	10.8	19.9	15	-20	-19	1406	0.89

CONSUMER PRODUCTS

INDUSTRY COMPOSITE	58311.1	5	4239.9	13	7.3	6.8	13.5	22.9	16	10	11	268181	2.07
APPAREL													
GROUP COMPOSITE	5845.4	7	362.7	9	6.2	6.1	13.0	16.3	19	11	15	22885	1.95
Amgen Group (11)	449.8	4	9.1	NM	2.0	0.1	NM	1.6	NM	-2	-14	563	0.27
Amgen Brands	138.2	2	-10.8	NM	NM	NM	5.8	9.3	3	-9	NA	25	1.01
Amgen of the Loom	428.9	1	44.1	22	10.3	8.5	14.9	21.9	16	36	28	3117	2.58
Amgen (1)	186.9	-39	-1.2	NM	NM	NM	NM	NM	NM	-22	NA	162	-8.37
Amgen Apparel Group	145.1	36	12.9	25	8.9	9.6	31.9	32.6	17	NA	NA	707	1.69
Amgen (8)	235.9	16	2.5	16	1.0	1.0	8.7	9.7	14	9	-12	376	1.98
Amgen Claiborne	531.3	-5	41.0	-35	7.7	11.3	19.4	19.7	15	23	18	2970	2.37
Amgen (7)	972.0	12	89.5	8	9.2	9.5	24.6	23.8	15	33	52	5319	4.66
Amgen Industries (7)	140.7	12	3.5	18	2.5	2.3	11.6	13.0	10	-3	2	145	1.65
Amgen-Van Heusen (11)	272.5	17	9.7	14	3.5	3.7	13.9	18.5	19	0	13	674	1.42
Amgen International	825.2	4	67.8	9	8.2	7.8	13.5	14.3	27	7	3	3117	1.29
Amgen	204.7	4	16.0	4	7.8	7.9	11.5	14.5	16	15	8	1301	2.01
Amgen Rite (1)	140.8	1	15.2	-11	10.8	12.2	21.0	22.0	14	19	25	827	1.16
Amgen	1016.6	24	52.7	21	5.2	5.3	14.7	20.9	12	1	5	2916	4.07
Amgen Group	156.8	20	10.8	144	6.9	3.4	NM	38.7	13	NA	NA	666	2.59
APPLIANCES & HOME FURNISHINGS													
GROUP COMPOSITE	7537.6	10	175.2	3	2.3	2.5	5.1	5.6	46	5	-6	19184	0.56
Amgen World Industries	611.9	-4	11.3	-27	1.8	2.4	NM	-16.1	NM	-8	NA	1239	-2.17
Amgen Buy (10)	613.6	81	10.8	111	1.8	1.5	9.7	10.9	21	16	8	414	1.71
Amgen City Stores (10)	1098.3	22	60.8	38	5.5	4.9	19.3	22.1	26	24	12	2814	1.15
Amgen-Meyers (10)	182.4**	24	9.6	41	5.3	4.6	10.8	12.4	26	13	11	959	1.26

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 423 \$ MIL	12 MONTH EARNING PER SHAR
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 423	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
InterTan (6)	174.0	-13	-5.4	NM	NM	1.6	NM	-35.7	NM	10	NA	73	-7.25	
Kimball International (6)	181.7	12	9.0	2	5.0	5.5	10.0	10.4	18	10	3	593	1.59	
La-Z-Boy Chair (8)	169.8	14	6.4	27	3.8	3.4	8.5	9.7	21	8	0	510	1.34	
Ladd Furniture	136.1	15	1.8	105	1.3	0.7	4.0	4.0	43	4	-42	265	0.21	
Masco	946.0	11	54.5	34	5.8	4.8	7.6	10.4	24	6	-20	4669	1.30	
Maytag	716.9	-5	-10.5	NM	NM	3.3	NM	-7.7	NM	12	NA	1439	-0.4	
Pier 1 Imports (10)	165.8	11	5.3	15	3.2	3.1	10.3	11.8	18	20	-1	421	0.67	
Sunbeam-Oster	289.4	8	23.8	49	8.2	6.0	11.3	14.0	19	NA	NA	1374	0.83	
Toro (5)	153.2	-5	1.8	NM	1.2	NM	NM	-6.3	NM	17	NA	228	-0.60	
Whirlpool	1808.0	5	18.0	-49	1.0	2.0	10.3	13.3	21	4	0	3983	2.63	
Zenith Electronics	290.5	10	-21.8	NM	NM	NM	NM	-47.2	NM	-15	NA	204	-3.33	
(c) BEVERAGES														
GROUP COMPOSITE	13049.9	8	978.7	8	7.5	7.4	13.8	26.6	23	9	15	100099	1.60	
Anheuser-Busch	2503.4	-5	194.1	-10	7.8	8.2	12.8	21.1	14	11	11	13363	3.43	
Brown-Forman (8)	353.2	13	37.2	8	10.5	11.0	15.5	19.5	15	7	12	2277	5.63	
Coca-Cola	3056.0	10	454.0	18	14.9	13.9	40.7	50.2	26	7	19	50801	1.45	
Coca-Cola Bottling Consolidated	154.3	4	1.3	NM	0.9	NM	3.0	5.9	NM	-21	NA	168	0.17	
Coca-Cola Enterprises	1208.0	9	-5.0	NM	NM	2.2	-0.7	-3.6	NM	-4	NA	1681	-0.33	
Coors (Adolph)	296.0	4	4.7	NM	1.6	NM	NA	3.6	16	2	-17	639	1.05	
Dr Pepper/Seven-Up	170.8	6	18.0	NM	10.5	NM	30.2	NM	NM	NA	NA	962	-0.11	
PepsiCo	5091.6	13	260.4	11	5.1	5.2	11.3	23.9	22	18	15	29256	1.64	
Universal Foods (3)	216.7	-3	13.9	10	6.4	5.7	10.3	14.0	22	13	15	952	1.63	
(d) PERSONAL CARE														
GROUP COMPOSITE	12938.8	1	946.3	20	7.3	6.1	16.2	21.6	19	10	22	64854	2.60	
Alberto-Culver (3)	288.5	5	11.2	10	3.9	3.7	12.4	13.8	20	19	13	765	1.30	
Avon Products	841.9	4	24.6	NM	2.9	NM	49.6	77.8	16	-10	1	3949	3.33	
Clorox (6)	476.5	5	45.4	18	9.5	8.4	11.4	15.0	20	5	-6	2620	2.33	
Colgate-Palmolive	1702.7	6	140.8	24	8.3	7.1	14.9	18.6	20	21	166	9594	3.04	
Ecolab	240.8	3	12.6	12	5.2	4.8	17.1	19.1	18	-6	15	1170	2.05	
Gillette	1216.6	1	142.3	10	11.7	10.7	26.6	35.7	21	34	18	11063	2.33	
Helene Curtis Industries (10)	334.2	14	7.2	11	2.2	2.2	7.9	12.4	18	17	-1	412	2.33	
NCH (8)	168.7	-2	7.7	-25	4.5	5.9	12.5	12.8	14	10	17	498	4.30	
Procter & Gamble (6)	7350.0	-2	516.0	9	7.0	6.3	13.9	18.9	18	9	34	32247	2.60	
Stanhome	164.5	-3	6.3	-24	3.8	4.9	18.1	17.4	12	15	7	541	2.25	
Tambrands	154.3	-12	32.2	10	20.9	16.8	66.4	74.5	16	-12	22	1992	3.15	
(e) TOBACCO														
GROUP COMPOSITE	18939.5	4	1777.0	14	9.4	8.6	14.1	28.3	9	12	3	61159	2.60	
American Brands	2085.6	-3	247.1	1	11.8	11.4	15.2	20.5	7	11	13	6482	4.33	
Culbro (1)	286.7***	9	-1.7	NM	NM	NM	3.5	0.9	68	-3	-6	73	0.23	
Philip Morris	12565.0	6	1218.0	11	9.7	9.3	19.8	42.5	8	15	23	41960	5.60	
RJR Nabisco Holdings	3736.0	3	210.0	46	5.6	4.0	6.3	9.8	10	10	-45	6524	0.60	
UST	266.2*	13	103.6	48	38.9	29.7	61.5	67.0	19	4	20	6120	1.50	
7 CONTAINERS & PACKAGING														
INDUSTRY COMPOSITE	6145.3	4	74.1	-43	1.2	2.2	3.8	5.1	47	10	0	14921	0.45	
(a) GLASS, METAL, & PLASTIC														
GROUP COMPOSITE	2337.7	8	60.3	3	2.6	2.7	8.8	15.3	18	14	9	5482	1.33	
Ball	534.7	10	9.1	-16	1.7	2.2	7.6	9.3	14	9	3	803	2.13	
Crown Cork & Seal	913.1	9	29.4	11	3.2	3.1	8.9	13.9	21	14	12	3281	1.84	
Owens-Illinois	889.9	5	21.8	1	2.5	2.6	9.1	34.4	15	33	NA	1398	0.71	
(b) PAPER														
GROUP COMPOSITE	3807.6	1	13.8	-81	0.4	1.9	1.6	1.5	NM	9	-3	9439	0.05	
Bemis	292.6	1	10.7	0	3.7	3.7	11.8	15.9	21	11	13	1177	1.10	
Federal Paper Board	319.8	-1	9.1	-44	2.8	5.0	5.6	7.2	14	13	-7	975	1.60	
Gaylord Container (3)	181.5	3	-11.8	NM	NM	NM	NM	-94.7	NM	NA	NA	137	-6.10	
Longview Fibre (2)	155.9	2	5.1	30	3.3	2.6	6.1	8.7	27	5	-21	911	0.60	
Nashua	141.1	17	2.6	NM	1.9	0.1	6.8	6.6	22	-14	-38	169	1.20	
Riverwood International	260.7	5	5.8	-58	2.2	5.6	6.0	7.5	21	NA	NA	838	0.60	
Sonoco Products	466.9	9	26.9	22	5.8	5.1	13.0	15.2	25	8	2	2113	1.90	
Stone Container	1306.3	-4	-62.7	NM	NM	NM	NM	-21.3	NM	9	NA	612	-3.20	
Temple-Inland	682.8	4	28.0	-20	4.1	5.3	4.0	8.6	18	12	-1	2507	2.50	
8 DISCOUNT & FASHION RETAILING														
INDUSTRY COMPOSITE	101021.4	11	4395.6	287	4.4	1.2	7.4	10.1	30	6	9	208939	0.90	
Ames Department Stores (11)	757.4**	-8	2.2	-72	0.3	1.0	NM	NM	NA	NA	NA	71	NA	
AutoZone (4)	242.3	23	16.0	48	6.6	5.5	23.3	23.9	41	NA	NA	2863	1.00	
Baker (J.) (11)	152.3	11	4.9	99	3.2	1.8	8.5	12.0	16	33	1	213	1.20	
Bradlees (11)	586.4	6	30.8	-26	5.2	7.5	8.2	3.8	36	NA	NA	179	0.40	
Caldor (11)	750.5	18	36.3	28	4.8	4.4	NA	18.3	12	NA	NA	443	2.50	
Carter Hawley Hale Stores (11)	753.3**	5	27.8	NM	3.7	NM	66.6	228.3	0	NA	NA	431	28.00	
Charming Shoppes (11)	337.2	14	25.9	31	7.7	6.7	17.6	19.5	20	18	4	1534	0.70	
CML Group (5)	236.4	38	32.5	49	13.8	12.7	22.3	29.9	27	8	24	1264	1.40	

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CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4/23 \$ MIL	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P-E 4/23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Consolidated Stores (11)	305.4	22	23.4	38	7.7	6.8	14.4	20.0	19	7	-10	698	0.78	
Costco Wholesale (4)	1832.8	17	34.0	2	1.9	2.1	10.6	13.5	19	63	77	2196	0.96	
Dayton Hudson (11)	5901.0**	12	249.0	30	4.2	3.7	9.9	14.4	14	0	15	5078	5.02	
illard Department Stores (11)	1582.1**	16	110.4	18	7.0	6.9	9.1	13.8	17	25	19	3974	2.11	
Dollar General (11)	291.7	20	16.7	36	5.7	5.1	18.7	18.8	24	7	36	805	1.05	
Edison Brothers Stores (11)	471.5	7	35.6	23	7.6	6.6	15.1	17.4	13	14	13	912	3.27	
EM Distributors (11)	190.0	7	4.5	4	2.4	2.4	NA	16.9	15	NA	NA	152	1.07	
Emri-Centers of America (11)	185.6	28	8.8	-22	4.8	7.8	2.9	3.7	26	17	52	129	0.54	
Family Dollar Stores (4)	356.5	12	20.8	15	5.8	5.7	19.2	20.1	16	11	18	964	1.09	
Federated Department Stores (11)	2262.0**	6	105.1	NM	4.6	NM	NA	6.4	16	-12	NA	2347	1.19	
Fene's Basement (11)	159.1**	14	4.4	12	2.8	2.8	15.6	17.2	12	NA	NA	201	0.87	
Fingerhut	371.8	20	7.8	-19	2.1	3.1	12.2	14.7	17	12	13	896	2.33	
Gap (11)	930.2	16	65.7	-22	7.1	10.4	22.1	23.7	19	24	28	4100	1.47	
Genesco (11)	150.8	20	4.2	186	2.8	1.2	6.2	6.6	25	27	-44	227	0.40	
Goody's Family Clothing (11)	157.3	32	7.7	46	4.9	4.4	23.2	23.5	14	NA	NA	344	1.50	
Grossman's	141.6	-8	-8.2	NM	NM	NM	3.4	1.4	42	13	-21	86	0.08	
Hachinger (11)	415.8	16	2.8	NM	0.7	NM	NM	-5.6	NM	17	-11	405	-0.63	
Hills Department Stores (11)	584.9	6	29.1	19	5.0	4.4	NM	NM	1	NA	-11	12	1.23	
Home Depot (11)	1818.5	40	97.1	44	5.3	5.2	12.7	16.7	51	50	44	18365	0.82	
Home Shopping Network (4)	244.0	-11	-20.0	NM	NM	2.9	4.0	1.3	NM	7	9	549	0.02	
House of Fabrics (11)	157.7	3	2.2	-74	1.4	5.4	4.2	2.9	29	13	21	147	0.37	
Jacobson Stores (11)	142.4**	10	5.7	49	4.0	3.0	4.5	4.5	21	5	-24	84	0.68	
Jamesway (11)	249.0	-2	-43.2	NM	NM	1.0	NM	-43.2	NM	0	NA	38	-3.39	
mart (11)	11642.0**	9	535.0	12	4.6	4.5	9.6	13.5	11	7	5	9257	2.06	
Mohl's (11)	382.4	19	22.5	63	5.9	4.3	11.8	13.8	39	NA	NA	1220	0.88	
Monds' End (11)	279.5	3	21.2	4	7.6	7.5	24.2	24.0	16	17	5	534	1.85	
Mited (11)	2428.0**	18	243.9	22	10.0	9.7	14.8	22.3	19	22	16	8518	1.25	
Moe's (11)	910.3	28	12.3	NM	1.4	NM	9.2	11.6	19	5	-23	2116	1.49	
Mac Frugal's Bargains (11)	197.4	4	23.2	12	11.7	10.9	5.5	5.1	45	6	-7	496	0.37	
Mac (R. H.) (5)	2037.3**	-1	8.9	NM	0.4	NM	NM	NM	NA	NA	NA	NA	NM	
May Department Stores (11)	3605.0**	7	319.0	20	8.8	7.9	13.4	18.4	15	-1	11	8609	4.71	
McLerville	2033.0	-1	-21.7	NM	NM	NM	8.4	6.4	35	7	-9	4713	1.27	
Mercantile Stores (11)	894.9**	12	54.8	33	6.1	5.2	6.3	7.1	15	10	0	1271	2.36	
Merry-Go-Round Enterprises (11)	294.7	18	14.0	NM	4.8	NM	NA	17.2	21	39	29	800	0.71	
Meyer (Fred) (11)	758.0	6	25.8	28	3.4	2.8	NA	13.5	13	11	7	747	2.21	
Michaels Stores (11)	182.1	26	11.1	46	6.1	5.3	14.4	13.1	23	28	-2	456	1.22	
Reiman Marcus Group (5)	617.2**	14	17.6	54	2.9	2.1	7.7	61.5	32	NA	NA	573	0.47	
Rordstrom (11)	1069.3	9	50.0	22	4.7	4.2	10.8	13.0	17	14	7	2347	1.67	
Ramada Holdings (11)	166.6	1	1.9	-41	1.2	2.0	7.0	19.9	8	6	-42	18	0.46	
Rayless Cashways (1)	492.8	5	-21.2	NM	NM	NM	NM	NM	NM	NA	NA	91	-2.16	
Renney (J. C.) (11)	6085.0**	13	375.0	914	6.2	0.7	10.8	16.6	13	1	-4	9567	6.31	
Rep Boys-Manny, Moe & Jack (11)	272.0	12	12.3	29	4.5	3.9	9.6	11.0	25	13	5	1335	0.90	
etrie Stores (11)	428.2	10	10.8	60	2.5	1.7	2.6	2.3	78	5	-37	1169	0.32	
Rice (4)	1678.0**	8	17.4	-16	1.0	1.3	10.1	14.2	11	16	12	1340	2.56	
VC Network (11)	341.8**	21	20.0	102	5.9	3.5	14.4	13.7	37	NA	NA	1482	1.35	
Rose's Stores (11)	464.5**	8	-36.2	NM	NM	NM	NM	-46.0	NM	-5	NA	68	-3.14	
Ross Stores (11)	321.3	14	16.2	18	5.0	4.9	14.8	16.2	12	10	19	411	1.32	
ears, Roebuck	11297.8**	-5	317.0	144	2.8	1.1	NM	-26.1	NM	-6	NA	18503	-6.54	
Service Merchandise	672.9	1	-10.9	NM	NM	NM	15.5	42.8	13	-21	16	1002	0.81	
ShopKo Stores (10)	428.8	-6	17.5	-17	4.1	4.6	10.6	14.1	10	NA	NA	480	1.56	
Spiegel Inc	500.3	17	2.9	180	0.6	0.2	6.4	8.6	27	13	-15	1105	0.79	
Strawbridge & Clothier (11)	332.0**	-2	22.3	22	6.7	5.4	6.8	7.4	14	5	-13	240	1.76	
Tiffany (11)	152.4**	2	8.7	-28	5.7	8.1	6.9	7.7	25	24	0	391	1.00	
TX (11)	997.6	25	29.4	109	2.9	1.8	16.5	32.7	21	-21	-11	2064	1.40	
Uys 'R' Us (11)	3401.8	19	339.7	30	10.0	9.1	14.3	17.1	26	22	17	11110	1.47	
U.S. Shoe (11)	688.2	-1	0.8	-93	0.1	1.8	2.0	0.9	NM	-1	-21	484	0.10	
Value City Department Stores (5)	272.8	6	18.5	14	6.8	6.3	16.8	21.4	14	NA	NA	493	1.13	
Venture Stores (11)	575.5**	10	32.0	12	5.6	5.5	17.6	23.6	6	-9	NA	291	2.82	
Vaban (11)	937.6	27	14.1	33	1.5	1.4	8.1	10.1	10	90	NA	415	1.33	
Wal-Mart Stores (11)	17122.0	26	749.6	24	4.4	4.4	17.2	24.8	31	33	28	61484	0.87	
Woolworth (11)	3135.0**	0	165.0	NM	5.3	NM	14.1	13.6	14	8	NA	3836	2.14	
Wounkers (11)	208.1**	111	15.2	238	7.3	1.8	NA	28.2	10	NA	NA	194	3.11	

ELECTRICAL & ELECTRONICS

INDUSTRY COMPOSITE	30998.9	10	2056.8	39	6.6	5.3	11.2	12.5	20	6	1	120174	2.02
ELECTRICAL PRODUCTS GROUP COMPOSITE	7529.4	4	387.9	7	5.2	5.0	11.8	13.4	20	5	-23	32037	1.74
Boleman	152.6**	29	9.9	30	6.5	6.4	10.1	14.4	24	NA	NA	726	1.14
Cooper Industries	1471.2**	-2	63.1	-4	4.3	4.4	9.1	10.8	18	15	10	5316	2.68
Emerson Electric (3)	2056.7	7	177.7	6	8.6	8.7	17.9	18.4	19	6	8	13082	3.05
Lubbell	198.0	5	24.0	2	12.1	12.6	17.0	17.5	19	9	9	1781	2.99
MagneTek (6)	385.7	25	8.9	37	2.3	2.1	9.4	21.7	18	80	46	571	1.34
National Service Industries (4)	427.0	9	14.6	-7	3.4	4.0	9.4	10.7	17	6	-8	1282	1.49
Raychem (6)	324.0	3	0.4	-92	0.1	1.7	-1.9	-2.6	NM	2	NA	1651	-0.47
Reliance Electric	388.0	4	12.0	100	3.1	1.6	9.7	11.7	22	70	25	1000	0.93
Thomas & Betts	267.1	3	13.2	NM	5.0	0.1	9.8	13.6	20	8	-3	1302	3.41
Westinghouse Electric	1859.0	0	64.0	-2	3.4	3.5	13.0	13.1	17	-6	-23	5327	0.88

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN				5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4Q92 \$ MIL.	12 MONTH EARN PER SHARE
	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992	1ST QUARTER 1992 \$ MIL.	CHANGE FROM 1992	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	PE 4Q92	COMMON EQUITY %	EARNINGS PER SHARE F1		
					1ST QUARTER 1993 %	1ST QUARTER 1992 %							
(b) ELECTRONICS													
GROUP COMPOSITE	12618.7	10	678.0	33	5.4	4.4	8.0	8.5	26	5	7	37747	1.7
E-Systems	531.4	7	27.4	11	5.2	5.0	16.8	16.9	11	11	11	1332	3.5
General Instrument	303.2	30	11.2	NM	3.7	NM	NM	-0.6	NM	-33	NA	1964	0.0
GM Hughes Electronics	3169.6	9	189.3	12	6.0	5.8	NM	-0.4	NM	0	NA	2505	-0.0
Harris (5)	744.2	1	27.5	28	3.7	2.9	8.4	9.7	14	2	-8	1465	2.7
Litton Industries (5)	1259.3	-8	44.4	3	3.5	3.2	11.1	12.2	14	4	0	2349	4.2
Motorola	3626.0	19	204.0	63	5.6	4.1	11.5	12.1	29	11	9	19048	2.4
Raytheon	2204.0	4	157.5	10	7.1	6.7	17.6	16.9	12	16	8	7868	4.8
SCI Systems (6)	455.6	75	7.4	419	1.6	0.5	NM	10.7	18	7	-34	380	0.9
Varian Associates (3)	325.3	3	9.3	20	2.9	2.5	8.1	9.3	22	-1	16	837	2.1
(c) INSTRUMENTS													
GROUP COMPOSITE	4019.2	3	122.6	-32	3.1	4.6	12.4	14.6	16	-3	8	10628	1.9
Ametek	187.1	-5	6.1	-46	3.3	5.7	12.1	18.6	18	-1	2	707	0.8
Beckman Instruments	201.7	-5	10.2	10	5.1	4.4	10.6	13.2	14	3	-1	614	1.5
Honeywell	1438.6	-3	57.3	-49	4.0	7.7	16.4	19.2	13	-3	11	4579	2.5
Johnson Controls (3)	1445.1	22	21.3	29	1.5	1.4	9.5	12.3	16	5	1	1944	3.1
Millipore	191.9	-3	8.6	-95	0.4	7.7	5.8	5.7	32	7	-4	822	0.9
Perkin-Elmer (5)	243.6	6	17.8	9	7.3	7.2	22.8	20.8	19	-20	8	1180	1.8
Tektronix	311.2	-21	9.1	NM	2.9	NM	6.3	6.0	26	-9	-4	782	1.0
(d) SEMICONDUCTORS													
GROUP COMPOSITE	6831.7	25	868.2	103	12.7	7.8	15.6	16.7	17	12	9	39762	2.6
Advanced Micro Devices	407.4	0	61.5	-28	15.1	20.8	21.6	20.2	13	8	113	2691	2.3
AMP	838.0	2	72.5	3	8.7	8.6	14.9	14.9	22	8	1	6335	2.7
Amphenol	146.9	26	3.7	32	2.5	2.4	5.2	6.4	28	29	NA	229	0.2
Analog Devices (2)	151.3	15	8.1	NM	5.4	NM	6.0	6.3	35	4	-16	826	0.4
Intel	2023.6	63	547.9	198	27.1	14.8	21.2	22.4	14	32	33	19412	6.5
LSI Logic	168.9	12	10.6	NM	6.3	0.2	NM	-45.6	NM	-7	NA	517	-2.2
Micron Technology (4)	176.4	38	9.0	518	5.1	1.1	3.1	3.0	56	39	-59	863	0.4
Molex (5)	206.0	7	17.6	6	8.5	8.7	10.7	10.5	25	15	8	1843	1.1
National Semiconductor	491.5	22	26.9	86	5.5	3.6	13.2	12.3	14	-10	NA	1355	0.8
Read-Rite (3)	150.2	59	18.8	67	12.5	11.9	15.3	17.5	7	NA	NA	481	1.9
Soletron (4)	187.4	99	6.6	92	3.5	3.7	9.7	16.2	34	101	22	596	1.0
Texas Instruments	1884.0	11	65.0	113	4.5	2.4	NA	15.2	19	-1	-6	4615	3.0
10 FOOD													
INDUSTRY COMPOSITE	73053.3	4	1705.3	-7	2.3	2.6	11.5	19.7	20	10	11	140663	1.3
(a) FOOD DISTRIBUTION													
GROUP COMPOSITE	12263.6	14	113.3	-17	0.9	1.3	8.1	12.1	19	14	15	9184	1.3
Fleming	4044.9	4	37.4	-3	0.9	1.0	7.7	11.1	10	15	8	1156	3.2
Nash Finch	601.1**	13	2.5	8	0.4	0.4	9.1	10.6	11	8	2	222	1.8
Richfood Holdings (8)	239.2	-5	4.1	14	1.7	1.4	16.8	20.7	19	23	NA	302	1.5
Rykoff-Sexton (8)	360.0	-8	-22.4	NM	NM	0.4	NM	-10.3	NM	12	-1	174	-1.4
Smart & Final	174.3	11	2.4	19	1.4	1.3	13.5	13.7	21	NA	NA	316	0.7
Super Food Services (4)	262.5**	-36	1.6	-10	0.7	0.6	NM	-5.0	NM	10	NA	110	-0.5
Super Rite (10)	328.5	8	-5.1	NM	NM	0.9	NM	-39.8	NM	-30	18	81	-1.0
Supervalu (10)	3863.7	47	49.9	5	1.3	1.8	8.3	15.1	14	12	16	2231	2.3
Sysco (6)	2399.3	10	42.8	16	1.6	1.7	11.9	16.0	24	19	22	4592	1.0
(b) FOOD PROCESSING													
GROUP COMPOSITE	31269.0	4	1217.8	-9	3.9	4.5	13.6	20.7	20	8	11	101280	1.7
Borden	1565.3	-8	32.4	-45	2.1	3.4	NM	-22.5	NM	-5	NA	3498	-1.7
Campbell Soup (5)	1788.9	2	115.9	NM	NM	9.2	10.1	12.7	39	2	12	9462	0.9
ConAgra (7)	5060.4	4	93.6	11	1.9	1.7	11.6	16.7	15	26	14	6020	1.6
CPC International	1626.2	7	90.4	5	5.5	5.6	18.6	26.0	15	9	7	6251	2.8
Curice-Burns Food (6)	211.1	5	3.7	78	0.3	0.2	8.6	6.0	18	8	-19	112	0.7
Dean Foods (7)	566.6	0	16.0	16	2.8	2.4	11.6	14.1	15	14	11	938	1.6
Dole Food	766.5	12	53.3	100	6.9	3.5	6.7	9.2	21	13	-4	1983	1.5
Flowers Industries (6)	211.3	5	7.7	12	3.6	3.4	11.9	13.9	17	3	-2	644	1.0
General Mills (7)	2010.7	8	148.8	7	7.0	7.1	20.0	41.4	20	15	20	18335	3.3
Heinz (H. J.) (8)	1766.7	9	162.3	41	9.2	7.1	16.2	25.6	15	11	14	9174	2.3
Hershey Foods	897.8	12	106.1	78	11.7	7.4	17.0	19.7	16	11	12	4588	3.2
Hormel Foods (2)	682.1	9	19.3	13	2.8	2.7	14.7	14.9	17	12	15	1623	1.2
Hudson Foods (3)	220.1	16	1.9	NM	0.8	NM	5.3	7.9	15	14	-22	160	0.7
IBP	2745.4	3	12.3	-37	0.4	0.7	7.7	10.2	16	2	-26	873	1.1
International Multifoods (10)	537.1	-3	10.6	14	2.0	1.7	11.0	12.9	11	-1	14	470	2.1
Interstate Bakeries (7)	344.5	1	5.2	-15	1.5	1.6	9.9	14.9	11	NA	NA	341	1.5
Kellogg	1518.4	0	179.2	-6	11.8	12.6	28.2	34.5	20	11	12	13527	2.8
McCormick	339.6	5	17.8	3	5.2	5.4	16.6	21.9	21	9	31	1937	1.1
Pet	447.4	-12	27.8	10	6.2	5.5	12.2	18.9	15	NA	NA	1595	1.0
Pilgrim's Pride (3)	227.7	13	7.8	NM	3.4	NM	-0.7	-1.7	NM	13	NA	221	-0.1
Pioneer Hi-Bred International (4)	186.7	-12	-15.2	NM	NM	NM	19.1	20.1	17	7	22	2331	1.5
Quaker Oats (5)	1358.1	2	79.2	40	5.8	4.2	18.9	43.4	15	-9	5	4516	4.1
Ralston Purina (3)	1913.4	3	86.4	0	4.5	4.6	15.2	43.9	16	-9	-1	4729	2.9
Sara Lee (6)	3310.0	5	152.0	10	4.6	4.4	13.6	20.6	18	16	19	11685	1.3

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CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 423 \$ MIL.	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Smithfield Foods (8)	339.4	8	0.5	-95	0.2	3.3	3.9	4.0	43	25	23	229	0.33	
Horn Apple Valley (7)	165.6	7	3.1	-7	1.8	2.1	21.5	22.3	7	16	109	133	3.14	
WLR Foods (6)	149.6	23	1.3	NM	0.8	NM	7.8	11.1	16	13	-5	172	1.19	
Wrigley (Wm.) Jr.	332.3	8	42.4	14	12.7	12.0	30.2	30.8	23	12	17	3563	1.31	
FOOD RETAILING GROUP COMPOSITE	29520.7	0	374.2	8	1.3	1.2	8.1	21.1	24	14	11	30199	0.61	
Albertson's (11)	2687.5	22	105.7	31	3.9	3.7	15.8	19.9	26	16	17	7146	2.09	
American Stores (11)	4850.3	-7	93.8	59	1.9	1.1	8.0	12.2	14	14	12	2824	2.94	
Arno's (6)	762.1	7	4.4	-72	0.6	2.2	7.3	10.6	16	16	13	644	0.53	
Casey's General Stores (8)	159.5*	12	3.1	17	2.0	1.9	8.4	12.2	14	11	5	180	1.17	
Circle K (8)	776.2**	12	-6.9	NM	NM	NM	NM	NM	NA	NA	NA	NA	-4.62	
Fairy Mart Convenience Stores (11)	143.1*	8	-9.5	NM	NM	0.3	-2.0	-16.2	NM	7	3	28	-1.26	
Elchamps (6)	246.5	4	3.5	41	1.4	1.1	9.5	10.8	15	13	2	192	1.78	
Flag Food Centers (11)	275.7	1	2.6	-5	0.9	1.0	8.9	11.7	11	NA	NA	90	0.74	
Food Lion	1656.8	4	21.9	-56	1.3	3.1	11.8	15.5	19	23	17	2902	0.32	
Foodarama Supermarkets (2)	172.7	-3	0.1	-67	0.1	0.2	4.7	1.4	35	2	-29	16	0.42	
Giant Food (10)	1112.4	-3	36.7	49	3.3	2.1	10.5	12.8	19	16	14	1514	1.37	
Great Atlantic & Pacific Tea (10)	2375.6	-13	-40.1	NM	NM	0.6	NM	-9.1	NM	11	4	1166	-2.58	
Hannaford Brothers	490.6**	1	9.8	12	2.0	1.8	10.4	14.4	17	20	13	856	1.23	
Kroger	5173.9	3	29.5	40	0.6	0.4	18.4	NM	16	NA	4	1703	1.17	
Kenn Traffic (11)	748.0**	6	4.6	79	0.6	0.4	2.9	16.9	96	14	NA	310	0.39	
Luddick (3)	417.7	8	8.0	9	1.9	1.9	9.7	12.2	15	15	11	460	1.34	
Meaway Food Town (4)	148.4	6	1.3	202	0.9	0.3	6.1	7.2	10	8	-9	26	1.15	
Smith's Food & Drug Centers	688.2	3	14.0	7	2.0	2.0	6.1	10.4	17	33	16	895	1.81	
Southland	1595.1***	-10	-15.9	NM	NM	NM	NM	NM	NM	NA	NA	1871	-0.25	
Top & Shop (11)	810.4	6	14.7	84	1.8	1.0	10.7	36.1	21	-7	-6	1067	1.05	
Village Super Market (5)	175.1	-3	1.2	NM	0.7	NM	5.5	5.1	9	4	-35	23	0.93	
Wons	1194.2	-6	15.9	6	1.3	1.2	8.8	16.3	12	28	NA	953	1.91	
Weis Markets	356.6	11	18.7	1	5.2	5.7	10.4	10.6	15	8	0	1101	1.64	
Winn-Dixie Stores (6)	2504.2	3	57.2	6	2.3	2.2	23.7	23.9	18	5	16	4231	3.08	
FUEL														
INDUSTRY COMPOSITE	95849.5	2	3722.9	42	3.9	2.8	7.4	10.4	21	1	9	284784	2.41	
COAL														
GROUP COMPOSITE	1018.8	10	9.7	-37	1.0	1.7	7.0	12.1	15	2	-10	1431	1.60	
Shland Coal	138.2	25	1.5	-79	1.1	6.6	NM	11.1	15	11	14	334	1.62	
Tacco Industries	343.8	8	0.0	NM	NM	0.2	6.4	9.6	20	6	-12	453	2.59	
Witston	536.8**	9	8.2	12	1.5	1.5	12.7	14.6	12	-5	33	643	1.35	
OIL & GAS														
GROUP COMPOSITE	89882.3	2	3534.4	47	3.9	2.7	7.4	10.7	20	1	9	256978	2.65	
Amherada Hess	1578.7**	9	3.4	NM	0.2	NM	0.7	1.0	NM	10	-41	4907	0.42	
Amoco	6243.0	10	229.0	-25	3.7	5.4	4.8	6.0	35	2	-10	26821	1.56	
Shland Oil (3)	2256.5	8	0.8	NM	0.0	NM	NM	-4.8	NM	3	NA	1499	-0.91	
Atlantic Richfield	4507.0*	4	260.0	44	5.8	4.2	11.5	18.9	15	3	-5	19230	7.87	
Burlington Resources	316.5	17	45.2	52	14.3	11.0	6.9	8.5	29	-5	31	5961	1.61	
Chevron	9842.0**	1	501.0	47	5.1	3.5	12.3	17.3	12	-2	16	26461	7.07	
Coastal	2647.1	4	25.0	NM	0.9	NM	NM	-4.8	NM	18	NA	2873	-0.93	
Crown Central Petroleum	413.3*	11	-5.7	NM	NM	NM	NM	-4.1	NM	10	NA	155	-1.26	
Diamond Shamrock	620.8	5	4.3	NM	0.7	NM	6.4	9.5	14	11	9	581	1.44	
Enron Oil & Gas	136.8	39	30.2	36	22.1	22.6	NM	12.6	27	12	NA	2880	1.34	
Exxon	24504.0**	-2	1185.0	-11	4.8	5.4	9.9	13.5	17	1	4	79786	3.69	
Marina	853.6	29	0.1	NM	0.0	NM	NM	2.8	35	9	-26	1032	1.92	
Molly (5)	149.9	36	2.1	NM	1.4	NM	19.4	50.8	14	13	-2	237	1.99	
Perr-McGee	783.5	0	24.4	94	3.1	1.6	NM	-1.1	NM	0	NA	2336	-0.29	
Louisiana Land & Exploration	186.9**	2	2.7	NM	1.4	NM	5.7	6.6	45	-5	NA	1233	0.96	
Maxus Energy	192.0	12	0.2	NM	0.1	NM	11.5	42.4	13	NA	NA	1151	0.66	
Mitchell Energy & Devel. † (11)	250.9	-2	19.5	48	7.8	5.1	4.9	5.7	31	2	62	1118	0.77	
Mobil	13415.0**	-2	490.0	286	3.7	0.9	8.1	9.8	17	1	0	27232	4.04	
Murphy Oil	398.5**	9	23.8	NM	6.0	NM	8.1	7.3	22	12	7	1895	1.96	
Occidental Petroleum	2169.0	8	83.0	NM	3.8	NM	4.6	7.2	26	-9	-9	6568	0.82	
Dryx Energy	283.0**	-15	-7.0	NM	NM	3.9	NM	5.7	43	-19	-21	2205	0.53	
Pennzoil	650.5**	19	21.5	NM	3.3	NM	7.7	4.3	48	20	-14	2451	1.26	
Phillips Petroleum	3029.0	12	61.0	NM	2.0	NM	8.0	15.2	19	11	31	7677	1.58	
Run	2304.0***	-5	35.0	NM	1.5	NM	NM	-13.4	NM	-15	NA	2674	-2.40	
Texaco	8519.0**	0	278.0	20	3.3	2.7	8.0	10.8	17	1	-14	16301	3.69	
Waco	416.1	25	14.8	NM	3.6	NM	7.8	13.4	19	59	2	684	1.21	
Ultramar	658.9	4	24.8	17	3.8	3.3	7.6	10.4	13	NA	NA	787	1.56	
Union Texas Petroleum Holdings	180.0**	-8	25.7	-47	14.3	24.7	8.1	24.7	32	26	63	2022	0.73	
Unocal	2081.0**	-4	141.0	781	6.8	0.7	5.8	11.3	25	7	10	7250	1.23	
Valero Energy	295.8	8	15.6	-22	5.3	7.3	7.1	9.5	12	11	32	973	1.82	

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		MARGINS		RETURN			5-YEAR GROWTH		MARKET VALUE SHARES OUTSTANDING \$ MIL	12 MONTH EARNING PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 %	1ST QUARTER 1992 %	ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %		
(c) PETROLEUM SERVICES GROUP COMPOSITE	4948.5	1	178.8	-10	3.6	4.0	6.2	6.6	45	3	8	26375	0.8
Baker Hughes (3)	692.4	11	2.8	-85	0.4	2.9	-1.2	-2.6	NM	14	NA	3642	-0.3
Baroid	175.8	3	4.6	26	2.6	2.1	8.0	7.5	32	-6	-3	568	0.2
Dresser Industries (2)	923.7	4	19.5	91	2.1	1.1	9.6	8.4	35	-5	27	2782	0.5
Halliburton	1559.0**	-7	18.8	94	1.2	0.6	NM	-6.0	NM	-1	NA	4087	-1.0
Schlumberger	1597.6	3	133.2	-15	8.3	10.1	15.3	15.4	24	5	14	15296	2.6
12 HEALTH CARE													
INDUSTRY COMPOSITE	49425.8	7	5266.2	14	10.7	10.1	19.3	24.6	17	11	15	293053	2.0
(a) DRUG DISTRIBUTION GROUP COMPOSITE	12074.1	14	266.4	34	2.2	1.9	7.1	8.4	35	11	9	15209	0.7
Arbor Drugs (5)	140.4	13	5.2	2	3.7	4.1	12.1	13.5	19	26	22	308	1.0
Bergen Brunswig (4)	1702.3**	40	15.4	-1	0.9	1.3	8.2	14.4	12	19	17	651	1.5
Big B (11)	146.9	5	4.4	34	3.0	2.3	9.9	11.8	15	5	1	141	1.2
Bindley Western Industries	798.5	23	3.3	5	0.4	0.5	6.6	6.7	11	28	33	114	0.9
Fay's (11)	258.0	8	5.2	16	2.0	1.9	9.5	12.7	12	10	20	136	0.5
Hook-SuperRx (4)	605.3	9	10.3	15	1.7	1.6	14.4	17.4	11	5	NA	213	0.9
Longs Drug Stores (11)	666.7	3	16.5	6	2.5	2.4	10.8	12.0	13	10	1	704	2.5
McKesson (9)	2951.8**	6	33.8	NM	1.1	NM	15.2	22.6	14	-10	-12	1571	2.6
Medco Containment Services (6)	705.1	40	37.5	36	5.3	5.5	12.2	15.8	38	27	41	4601	0.7
Perry Drug Stores (2)	180.7	3	0.6	-78	0.3	1.5	7.5	9.0	14	0	29	92	0.5
Revco D. S. (7)	552.4	6	4.3	-74	0.8	3.1	NM	-74.0	NM	NA	NA	526	-9.4
Rite Aid (10)	1108.1	10	45.8	2	4.1	4.4	9.6	13.2	12	14	7	1584	1.5
Walgreen (4)	2257.9	11	84.2	9	3.7	3.8	16.4	18.5	20	15	16	4569	1.8
(b) DRUGS & RESEARCH GROUP COMPOSITE	16742.4	4	3212.7	10	19.2	18.1	26.8	30.9	16	12	15	181158	2.7
Allergan	213.0	1	23.7	19	11.1	9.5	20.3	21.9	15	0	NA	1620	1.6
American Home Products	2111.0	5	401.5	180	19.0	7.2	31.6	39.5	14	7	7	20270	4.5
Amgen	310.2	41	80.6	27	26.0	28.7	33.9	38.4	16	45	158	5406	2.5
Bristol-Myers Squibb	2755.5	4	574.7	8	20.9	20.2	26.3	26.2	19	14	8	30561	3.0
Genentech	153.0**	19	14.3	305	9.4	2.7	3.1	3.1	NM	27	-11	3937	0.2
Lilly (Eli)	1560.0	0	373.5	-16	23.9	28.6	14.8	15.5	18	11	16	13646	2.5
Marion Merrell Dow	617.0	-21	74.0	-56	12.0	21.4	29.2	31.3	9	50	31	4937	2.1
Merck	2379.6	7	613.8	10	25.8	25.1	41.2	50.0	17	19	23	41209	2.1
Pfizer	1867.3	6	329.0	11	17.6	16.9	21.9	23.8	19	5	7	21053	3.3
Rhone-Poulenc Rorer	916.3	2	96.4	34	10.5	8.0	21.9	34.6	15	27	12	6638	3.1
Schering-Plough	1089.6	7	223.5	16	20.5	18.9	40.0	47.0	17	0	21	12869	3.7
Syntex (5)	505.5	-3	119.1	-2	23.6	23.2	NM	29.3	13	15	15	4140	1.4
Upjohn	932.7**	7	152.4	11	16.3	15.8	21.2	27.1	10	4	15	5281	3.1
Warner-Lambert	1331.7	2	136.1	-17	10.2	12.5	31.9	40.3	16	10	5	9592	4.5
(c) HEALTH-CARE SERVICES GROUP COMPOSITE	10186.7	8	567.4	28	5.6	4.7	7.9	11.2	19	8	NA	25273	0.8
American Medical Holdings (4)	566.1	-1	18.3	85	3.2	1.7	11.1	18.8	6	-11	NA	786	1.6
Beverly Enterprises	691.2	13	10.4	49	1.5	1.1	3.1	1.3	NM	2	NA	836	0.0
Caremark International	427.8	25	15.7	5	3.7	4.4	8.1	8.4	33	NA	NA	924	0.3
Continental Medical Systems (6)	232.3	28	7.8	5	3.3	4.1	9.4	12.2	13	41	63	372	0.8
Foundation Health (6)	383.1	20	18.7	35	4.9	4.3	21.1	20.3	13	NA	NA	761	1.9
Galen Health Care (4)	1001.0	-4	68.0	-16	6.8	7.7	7.8	8.4	11	17	4	1847	1.0
HCA-Hospital Corp. of America	1324.5	-1	114.5	49	8.6	5.8	3.3	4.6	63	-11	NA	3285	0.3
Healthtrust (4)	597.9	4	37.9	75	6.3	3.8	10.5	21.4	12	97	NA	1412	1.4
Hillhaven (7)	315.1	10	9.4	206	3.0	1.1	NM	19.9	10	NA	NA	288	0.2
Humana	786.0**	13	18.0	500	2.3	0.4	NM	-24.5	NA	NA	NA	1291	N
Lifetime	230.3	8	4.9	32	2.1	1.8	4.5	4.7	40	20	17	252	0.6
Manor Care (7)	244.9	10	11.8	29	4.8	4.1	13.3	23.6	15	9	9	1191	1.3
National Health Laboratories	199.8	13	33.6	13	16.8	16.8	15.4	20.9	38	-4	2	1602	0.4
National Medical Enterprises (7)	933.3	-4	54.2	22	5.8	4.6	5.2	5.8	12	15	2	1223	0.6
NovaCare (6)	139.3	40	7.5	-30	5.4	10.7	18.9	17.1	15	38	55	620	0.8
OrNdo HealthCorp (4)	149.1**	20	2.5	NM	1.7	NM	NM	-85.6	NM	NA	NA	105	-4.8
PacificCare Health Systems (3)	560.9	31	15.2	49	2.7	2.4	18.8	18.5	18	43	66	961	2.0
U. S. Healthcare	621.7**	23	63.0	39	10.1	9.0	43.1	43.1	21	31	198	4436	2.0
Universal Health Services	195.3**	9	8.6	16	4.4	4.1	8.6	10.4	9	6	52	194	1.5
WellPoint Health Network	586.9	7	47.5	10	8.1	7.9	35.3	35.3	16	NA	NA	2886	1.8
(d) MEDICAL PRODUCTS GROUP COMPOSITE	10422.5	6	1219.8	14	11.7	10.9	20.1	25.1	16	10	15	71413	2.0
Abbott Laboratories	2045.6	9	345.5	17	16.9	15.7	35.1	38.5	17	9	16	21528	1.5
Bard (C. R.)	236.4	0	26.9	60	11.4	7.1	20.4	21.7	15	5	1	1255	1.6
Bausch & Lomb	407.6	10	32.9	15	8.1	7.7	16.8	19.6	17	9	10	2928	2.9
Baxter International	2041.0	4	120.0	10	5.9	5.5	11.5	15.1	14	7	13	7996	2.0
Becton, Dickinson (3)	612.5	3	59.0	14	9.6	8.7	10.4	14.1	12	12	9	2569	2.7
Imcera Group (6)	439.9	1	30.6	-6	7.0	7.5	9.5	10.7	16	NA	82	2025	1.6
Johnson & Johnson	3560.0	6	503.0	11	14.1	13.5	26.8	32.4	16	11	15	26134	2.5
Medtronic (8)	308.2	3	47.8	21	15.5	13.2	22.6	22.2	19	17	15	3819	3.3

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CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4/23 \$ MIL	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4/23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Chemicals & Minor tryker	309.8 135.2	10 20	3.7 14.5	20 31	1.2 10.7	1.1 9.8	12.4 21.9	13.8 22.0	18 24	10 26	14 29	284 1220	0.81 1.07	
U.S. Surgical	326.3	18	36.0	21	11.0	10.7	15.5	24.6	12	37	43	1655	2.44	
HOUSING & REAL ESTATE														
INDUSTRY COMPOSITE	6301.0	7	8.8	-74	0.1	0.6	9.0	13.9	29	7	-2	21990	1.17	
BUILDING MATERIALS														
GROUP COMPOSITE	4764.3	2	-52.9	NM	NM	NM	9.3	14.7	36	6	-25	18965	1.03	
3M	191.8	-9	-72.8	NM	NM	NM	NM	-4.3	NM	5	NA	957	-0.48	
Dow Chemicals	651.0	4	-9.0	NM	NM	1.0	NM	NM	29	NA	-23	1679	1.37	
PG Industries	1446.7	0	110.1	40	7.6	5.4	11.8	14.1	22	6	-7	7801	3.31	
PM (7)	138.6	10	4.7	10	3.4	3.4	NA	16.1	23	14	12	839	0.79	
Therwin-Williams	618.3	4	13.8	19	2.2	2.0	15.5	16.2	20	11	9	2872	1.65	
Wm. W. Brown Products	341.6	3	17.9	26	5.2	4.3	9.1	8.8	14	3	-13	744	4.96	
Exxon Industries (7)	142.3**	5	-4.5	NM	NM	NM	NM	-2.0	NM	9	123	245	-0.48	
USG	436.0	2	-129.0	NM	NM	NM	NM	NM	NM	NA	NA	16	-4.86	
Dalspar (2)	137.2	4	3.4	-6	2.5	2.7	19.3	20.7	23	14	15	768	1.57	
Wulcan Materials	214.1	2	-0.5	NM	NM	2.2	10.5	12.3	20	4	-9	1684	2.28	
York International	446.8	2	13.0	20	2.9	2.5	13.6	17.2	19	NA	144	1360	1.90	
CONSTRUCTION & REAL ESTATE														
GROUP COMPOSITE	1536.6	29	61.7	69	4.0	3.1	8.7	12.4	14	11	1	3026	1.68	
Capstead Mortgage	159.2**	56	22.9	104	14.4	11.0	9.1	16.8	11	10	7	590	3.45	
Centex (9)	651.0**	25	15.3	63	2.3	1.8	9.6	10.8	15	8	5	878	1.91	
Conover Enterprises (10)	186.0**	51	8.3	176	4.5	2.4	NA	6.8	25	14	-39	248	0.43	
Duffman & Broad Home (1)	224.9	22	4.4	28	1.9	1.8	6.2	9.2	22	9	-15	610	0.80	
HM	315.6**	23	10.9	14	3.4	3.7	NA	15.3	10	15	39	700	2.68	
RECREATION TIME INDUSTRIES														
INDUSTRY COMPOSITE	18944.0	6	899.1	12	4.7	4.5	10.2	14.2	21	9	1	99346	1.68	
EATING PLACES														
GROUP COMPOSITE	3616.1	4	235.3	21	6.5	5.6	9.2	15.2	21	14	11	21222	1.49	
Bob Evans Farms (8)	169.5	20	11.4	10	6.8	7.3	13.9	14.2	18	11	10	759	1.01	
Brinker International (6)	164.7	25	12.8	38	7.8	7.0	14.0	14.1	30	43	29	1303	1.43	
McDonald's	1654.1	2	218.3	16	13.2	11.6	12.4	17.6	17	13	12	16771	2.66	
Morrison Restaurants (7)	283.6**	8	10.5	15	3.7	3.5	14.7	16.3	20	4	8	717	1.45	
Orion's (2)	317.7**	7	12.1	35	3.8	3.0	NM	NM	NM	NA	NA	812	-0.57	
Pizzier International (8)	147.5	-7	0.2	-96	0.1	2.9	-0.4	-0.9	NM	12	-6	237	-0.08	
W Holdings	879.0	2	-30.2	NM	NM	NM	NM	-19.6	NM	4	NA	622	-0.32	
ENTERTAINMENT														
GROUP COMPOSITE	3361.2	14	245.0	18	7.3	7.0	11.4	13.3	24	19	6	30991	1.55	
Blockbuster Entertainment	391.1	54	39.2	53	10.0	10.1	15.3	19.8	21	76	60	3242	0.82	
Disney (Walt) (3)	2026.5	24	204.9	25	10.1	10.1	14.0	17.8	24	20	14	21672	1.68	
Paramount Communications (2)	943.7	-12	0.9	-95	0.1	1.7	6.7	6.3	24	15	-4	6077	2.12	
HOTEL & MOTEL														
GROUP COMPOSITE	3351.1	7	110.0	16	3.3	3.0	8.0	13.4	25	3	-5	11545	1.38	
Caesars World (5)	264.5	4	25.5	11	9.7	9.1	12.4	15.7	15	4	8	995	2.77	
Circus Circus Enterprises (11)	191.1	2	20.0	5	10.5	10.2	18.2	27.3	20	2	27	2476	2.11	
Hilton Hotels	331.6**	20	23.1	4	7.0	8.0	6.8	10.5	20	5	-7	2105	2.19	
Marriott	2080.0	7	19.0	73	0.9	0.6	5.6	13.0	35	-9	-22	2533	0.72	
Marriott Resorts	214.8	-1	10.4	-26	4.8	6.5	8.3	6.0	31	24	-19	1018	1.09	
Omni	269.2	4	12.0	118	4.4	2.1	9.3	13.5	42	NA	NA	2419	0.85	
OTHER LEISURE														
GROUP COMPOSITE	8615.5	4	308.8	1	3.6	3.7	11.1	14.5	18	4	-3	35588	2.02	
American Greetings (10)	448.5**	6	34.0	27	7.6	6.3	11.0	12.1	17	9	15	1894	3.10	
Runswick	542.8	0	9.8	-13	1.8	2.1	4.4	4.6	35	-2	-28	1332	0.40	
Carnival Cruise Lines (1)	323.6	-2	50.7	8	15.7	14.2	16.6	20.6	17	17	9	4779	2.04	
Kodak	4442.0	1	149.0	3	3.4	3.3	10.5	15.2	18	0	-32	17640	3.07	
Leetwood Enterprises (8)	445.0	30	10.8	69	2.4	1.9	13.7	10.9	15	8	-4	822	1.17	
Marley-Davidson	269.6	9	15.1	73	5.6	3.5	18.1	18.0	22	35	14	1354	1.66	
Lasbro	437.0	-3	26.6	15	6.1	5.1	15.6	16.5	15	11	22	2746	2.04	
Luffy	215.0	20	4.9	-15	2.3	3.2	8.9	9.3	18	10	16	201	0.87	
Mattel	346.2	6	18.3	24	5.3	4.5	22.4	27.1	17	41	34	2343	1.47	
Musical Stores	223.7	21	-1.8	NM	NM	NM	8.1	11.5	18	12	8	460	0.84	
Outboard Marine (3)	274.5	4	1.0	-44	0.4	0.7	0.5	0.0	NM	-4	-52	332	0.00	
Polaroid	468.5	9	-23.5	NM	NM	1.4	8.0	10.2	22	-5	18	1523	1.46	
Trans World Music (11)	179.0	12	14.0	19	7.8	7.3	12.9	13.0	12	28	10	163	1.40	
MANUFACTURING														
INDUSTRY COMPOSITE	22844.8	5	717.2	125	3.1	1.5	7.6	10.0	28	5	2	75702	1.27	
GENERAL MANUFACTURING														
GROUP COMPOSITE	5914.5	3	302.6	11	5.1	4.8	11.8	14.3	22	9	4	29944	1.56	
Dennison	666.5	-1	22.2	9	3.3	3.0	8.9	10.3	22	14	-6	1788	1.38	
Mount (10)	159.0	-10	1.2	NM	0.8	NM	5.2	4.8	23	2	NA	167	0.60	
Carlisle	138.4	4	5.9	10	4.3	4.0	10.2	12.1	17	1	-3	412	3.23	

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CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 423 \$ MIL	12 MONTH EARNINGS PER SHA
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 423	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Corning	823.4**	9	49.8	-23	6.0	8.6	10.6	13.8	26	5	5	6641	1.3	
Crane	312.3	0	10.8	20	3.4	2.9	9.1	9.6	30	2	-9	783	0.8	
Harsco	345.8	-15	24.2	16	7.0	5.1	17.0	19.2	11	3	22	1053	3.6	
Hillenbrand Industries (1)	374.5	8	33.6	26	9.0	7.6	16.6	20.5	29	12	13	3221	1.5	
Illinois Tool Works	750.0	12	42.0	4	5.6	6.0	13.3	17.0	21	17	10	4138	3.4	
Jostens (6)	185.0	5	5.5	-46	3.0	5.7	12.1	13.4	16	22	8	850	1.1	
Mark IV Industries (10)	305.3	7	9.6	34	3.1	2.5	9.9	13.0	15	44	18	688	1.2	
Newell	334.2	8	27.7	1	8.3	8.8	16.9	19.0	18	31	23	3016	2.0	
Parker Hannifin (6)	607.2	0	14.9	-6	2.5	2.6	7.1	7.1	21	4	-9	1405	1.3	
Rubbermaid †	483.7	8	49.6	87	10.3	5.9	19.3	19.2	26	19	13	5028	1.1	
Trinova	429.2	2	5.6	NM	1.3	0.1	5.6	5.6	39	-12	-25	755	0.6	
(b) MACHINE & HAND TOOLS														
GROUP COMPOSITE	3061.6	9	90.8	62	3.0	2.0	3.6	5.4	41	5	NA	8444	0.6	
Black & Decker	1095.8	3	13.9	101	1.3	0.6	NM	-8.4	NM	8	NA	1502	-0.9	
Cincinnati Milacron	221.0	38	4.3	291	1.9	0.7	13.0	14.8	38	-11	NA	712	0.6	
Clark Equipment	199.7	5	2.6	NM	1.3	NM	NM	-6.9	NM	-9	NA	425	-1.0	
Danaher	248.4**	17	10.1	95	4.1	2.4	8.8	10.5	22	28	-9	809	1.2	
Giddings & Lewis	140.3	0	10.2	39	7.3	5.2	11.2	11.4	22	43	NA	827	1.2	
Kennametal (6)	153.7	1	7.3	36	4.8	3.5	6.0	6.0	25	9	-6	373	1.4	
Snap-on Tools	270.7**	20	18.5	0	6.8	8.2	8.5	9.8	22	8	-8	1486	1.5	
SPX	178.7	2	0.8	-60	0.4	1.1	7.1	10.7	11	-9	-11	236	1.5	
Stanley Works	553.4	11	23.0	31	4.2	3.5	10.4	15.2	20	2	-1	2073	2.2	
(c) SPECIAL MACHINERY														
GROUP COMPOSITE	10755.4	5	235.0	NM	2.2	NM	6.1	7.2	37	2	3	29301	1.1	
Applied Materials (2)	215.6	29	14.7	129	6.8	3.8	9.6	9.9	30	23	81	1511	1.2	
Briggs & Stratton (6)	360.9	4	30.8	11	8.5	8.0	15.1	18.8	15	0	12	917	4.1	
Caterpillar	2697.0	24	34.0	NM	1.3	NM	NM	-3.3	NM	-11	NA	6751	-0.2	
Deere (2)	1423.5**	-2	-27.6	NM	NM	NM	5.2	1.2	NM	6	-43	4388	0.3	
Dover	566.8	4	33.8	12	6.0	5.5	17.6	16.5	21	4	4	2740	2.3	
FMC	901.7	-3	45.4	-17	5.0	5.8	22.7	83.8	9	NA	5	1592	4.9	
General Signal	363.1	-12	17.5	17	4.8	3.6	4.0	3.0	NM	-12	-14	1212	0.5	
Harnischfeger Industries (2)	284.1**	-14	0.6	-95	0.2	3.2	7.2	8.0	12	12	29	521	1.6	
Ingersoll-Rand	952.1	11	24.6	19	2.6	2.4	6.4	9.2	28	5	1	3413	1.1	
Interlake	168.5	-2	-3.6	NM	NM	NM	NM	NM	NM	NA	NA	80	-0.8	
Joy Technologies (10)	156.6	-4	-3.9	NM	NM	4.5	NA	-12.7	NM	NA	NA	283	-0.0	
Pentair	321.8	10	9.5	13	3.0	2.9	10.4	13.4	15	10	5	531	3.2	
Rexnord (6)	139.8	6	5.7	641	4.1	0.6	6.0	8.0	NM	NA	NA	344	-0.3	
Stewart & Stevenson Services (11)	222.4	20	13.3	32	6.0	5.4	13.1	14.8	27	31	24	1216	1.3	
Timken	422.5	0	3.2	-35	0.8	1.2	1.1	0.4	NM	1	-23	931	0.0	
Tyco Laboratories (6)	744.2	-1	25.9	11	3.5	3.1	9.3	10.4	19	27	1	2042	2.2	
Varity (11)	814.9	-9	11.2	NM	1.4	NM	15.8	4.6	59	23	NA	830	0.5	
(d) TEXTILES														
GROUP COMPOSITE	3113.4	8	88.8	37	2.9	2.2	8.6	12.8	20	8	-3	8014	1.3	
Albany International	137.1**	-1	0.1	NM	0.1	NM	2.8	1.6	NM	7	-39	410	0.1	
Amoskeag	271.0**	-3	1.0	NM	0.4	NM	6.3	6.6	11	-3	39	95	2.4	
Cone Mills	195.0	12	12.6	5	6.5	6.9	18.6	33.7	12	-4	-3	512	1.5	
Delta Woodside Industries (6)	176.4	5	8.9	0	5.1	5.3	9.1	10.7	10	35	-4	347	1.3	
DWG (8)	332.5	-2	-0.9	NM	NM	NM	1.0	-2.0	NM	-9	NA	515	-0.0	
Fieldcrest Cannon	263.4	-3	3.7	495	1.4	0.2	7.5	10.8	11	0	-10	269	2.0	
Guilford Mills (6)	153.3	3	6.1	29	4.0	3.2	11.8	14.2	12	0	-2	367	2.1	
Interface	135.0	-13	2.2	-42	1.6	2.4	5.7	5.7	20	11	-10	209	0.6	
Mohawk Industries	140.5	120	2.1	NM	1.5	NM	NA	24.7	22	NA	NA	285	1.4	
Shaw Industries (6)	519.3	29	16.6	87	3.2	2.2	11.0	13.9	25	20	14	2255	1.2	
Springs Industries	501.8	8	9.2	71	1.8	1.2	7.4	9.3	17	3	-10	787	2.7	
Unifi (6)	288.1	3	27.1	24	9.4	7.8	15.3	21.8	18	27	25	1963	1.7	
16 METALS & MINING														
INDUSTRY COMPOSITE	11553.3	5	-68.5	NM	NM	1.1	-1.8	-5.9	NM	2	-12	31257	-0.9	
(a) ALUMINUM														
GROUP COMPOSITE	4187.5	-5	-34.9	NM	NM	1.9	-1.1	-4.6	NM	4	NA	9738	-1.5	
Aluminum Co. of America	2109.6	-6	27.6	-50	1.3	2.4	3.1	-0.2	NM	-1	-45	5633	-0.0	
Amx	847.2	-3	-29.8	NM	NM	2.6	NM	-9.6	NM	10	NA	1446	-2.3	
Reynolds Metals	1230.7	-4	-32.7	NM	NM	0.4	NM	-7.4	NM	7	NA	2659	-2.4	
(b) STEEL														
GROUP COMPOSITE	5534.6	15	-87.4	NM	NM	NM	-6.3	-18.3	NM	-6	2	12634	-1.3	
Allegheny Ludlum	289.9	10	18.3	61	6.3	4.3	15.0	20.0	27	8	-10	1446	1.6	
Armco	515.5	41	-22.0	NM	NM	NM	NM	NM	NM	-23	NA	725	-4.1	
Bethlehem Steel	1020.4	3	-41.3	NM	NM	NM	NM	-62.2	NM	-19	NA	1731	-2.7	
Carpenter Technology (6)	155.4	-5	12.4	72	8.0	4.5	5.2	6.0	23	0	23	383	2.1	
Commercial Metals (4)	413.4**	56	4.8	NM	1.2	0.2	7.4	7.7	19	6	-1	310	1.5	
Inland Steel Industries	941.5	5	-31.4	NM	NM	NM	NM	-57.9	NM	-22	NA	802	-5.3	
Lukens	257.1	84	6.2	18	2.4	3.7	7.7	10.0	20	15	1	661	2.3	
National Steel	587.4	4	-53.7	NM	NM	NM	NM	-44.7	NA	-14	NA	572	N	

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CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4-23 \$ MIL	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Ducor	489.8	26	21.7	34	4.4	4.2	7.6	10.8	43	12	6	3600	1.95	
Oregon Steel Mills	149.0	18	6.8	-37	4.5	8.5	5.2	6.2	29	45	23	468	0.83	
Quanex (2)	141.4	13	0.5	-12	0.3	0.4	3.9	1.3	94	10	-4	205	0.16	
Veirton Steel	297.7	10	-25.5	NM	NM	NM	NM	-24.1	NM	-7	NA	167	-2.17	
Worthington Industries (7)	276.1	19	15.7	35	5.7	5.0	12.6	15.1	26	8	3	1565	1.02	
OTHER METALS														
GROUP COMPOSITE	1831.3	1	53.8	-49	2.9	5.9	2.5	1.9	94	6	-6	8885	0.35	
Asarco	457.1	0	-30.9	NM	NM	1.4	NM	-4.9	NM	3	NA	845	-1.60	
Cyprus Minerals	374.7	-6	11.6	NM	3.1	NM	NM	-25.5	NM	2	NA	1215	-5.81	
Magma Copper	194.6	-3	0.3	-97	0.1	4.9	8.2	8.3	11	10	10	576	1.15	
Newmont Mining	138.1	-12	12.6	-71	9.1	27.9	9.4	10.4	58	NA	-17	3126	0.79	
Phelps Dodge	666.7	13	60.3	16	9.0	8.8	12.5	15.5	10	12	6	3124	4.39	
NONBANK FINANCIAL														
INDUSTRY COMPOSITE	55016.7	3	4693.0	13	8.5	7.9	9.2	12.0	16	10	10	207162	2.87	
FINANCIAL SERVICES														
GROUP COMPOSITE	28155.4	6	2484.6	3	8.8	9.2	9.5	17.2	14	15	12	110799	3.23	
Alexander & Alexander Services	322.8	1	10.9	-48	3.4	6.5	14.5	23.4	23	-9	-6	1010	1.09	
Allegheny	419.3	5	33.3	173	8.0	3.1	9.8	10.6	11	10	-5	970	12.67	
American Express	5641.7**	3	243.2	-2	4.3	4.5	NA	5.2	38	12	-12	14039	0.77	
Bear Stearns (6)	734.1	3	110.4	21	15.0	12.8	31.3	26.6	7	6	15	2214	2.80	
Beneficial	499.6	7	49.6	14	9.9	9.3	7.6	13.7	13	11	3	1883	5.72	
Block (H&R) (8)	295.6	20	8.6	68	2.9	2.1	31.5	31.5	23	13	16	3653	1.50	
Countrywide Credit Industries (10)	186.9**	77	39.1	78	20.9	20.8	20.9	21.1	12	47	12	1647	2.48	
Crawford	148.0	4	9.2	1	6.2	6.4	20.7	21.2	17	17	21	696	1.13	
Dean Witter, Discover	957.1	17	136.4	-4	14.3	17.3	NA	16.2	13	NA	NA	5695	2.61	
Edwards (A. G.) (10)	305.7	14	36.4	18	11.9	11.5	NA	20.6	10	13	16	1220	2.58	
Equifax	275.9	0	18.1	16	6.6	5.7	19.5	34.0	16	17	5	1326	1.09	
Fannie Mae	3859.2**	11	483.7	25	12.5	11.2	8.3	25.8	12	31	33	21556	6.36	
Federal Home Loan Mortgage Assn.	1165.0	9	202.0	43	17.3	13.2	4.6	18.1	14	26	13	8949	3.57	
First American Financial	279.0**	22	4.5	-28	1.6	2.7	12.5	19.1	8	6	-9	380	4.19	
First Financial Management	343.5**	26	20.6	54	6.0	4.9	2.2	2.1	95	41	-9	2223	0.40	
Franklin Resources (3)	158.9	63	42.2	36	26.6	31.8	NA	24.5	19	35	16	2729	1.76	
Marsh & McLennan	833.9**	8	107.4	6	12.9	13.1	21.9	28.1	22	8	1	6778	4.26	
Merrill Lynch	3963.1**	16	342.4	24	8.6	8.1	8.7	22.2	8	6	13	7343	9.00	
Morgan Stanley Group (11)	1795.4**	NA	141.8	NA	7.9	NA	52.4	17.8	10	23	13	4623	5.90	
PraineWebber Group	930.7**	6	70.9	-5	7.6	8.5	38.4	22.1	6	3	42	1112	4.10	
Primerica	1302.3**	-2	207.0	-6	15.9	16.5	14.5	18.5	10	36	21	7574	4.34	
Wallie Mae	670.9	-6	104.7	10	15.6	13.3	4.6	39.3	10	17	20	3996	4.37	
Salomon	1591.0**	-18	-65.0	NM	NM	9.8	16.1	6.5	19	5	33	4049	1.93	
Schwab (Charles)	270.0	2	35.4	19	13.1	11.2	23.7	33.6	15	10	36	1237	2.22	
Transamerica	1206.0**	6	91.8	29	7.6	6.3	7.0	11.8	11	3	-13	3899	4.31	
INSURANCE														
GROUP COMPOSITE	24181.8	3	2019.4	26	8.4	6.8	9.4	8.0	20	7	13	87894	2.67	
Aetna Life & Casualty	4294.1	-5	139.3	-10	3.2	3.4	-0.5	-0.6	NM	4	NA	5734	0.21	
AFLAC	1120.8	20	53.7	25	4.8	4.6	17.7	18.0	16	14	14	3142	2.37	
American General	1187.0	5	144.0	7	12.1	11.9	9.0	11.8	12	1	7	6434	2.50	
American International Group	4308.5**	5	475.2	17	11.0	10.0	10.7	13.2	16	17	10	26348	7.95	
American National Insurance	341.1	7	51.5	29	15.1	12.6	NA	NA	8	4	9	1503	6.81	
Capital Holding	717.0	1	65.8	0	9.2	9.2	10.2	16.0	13	11	11	3816	6.28	
CP Insurance	157.3**	14	28.3	46	18.0	14.0	NA	25.5	7	NA	NA	686	3.86	
Chubb	1237.5**	5	145.8	2	11.8	12.2	12.5	15.7	13	15	12	7877	6.98	
Conseco	412.1**	14	142.4	288	34.6	10.1	27.8	50.0	6	77	50	1476	9.18	
First Colony	359.2	24	56.7	54	15.8	12.7	NA	NA	8	NA	NA	1380	3.72	
John Alden Financial	327.7	14	19.6	44	6.0	4.7	20.9	26.5	6	NA	NA	439	3.09	
Progressive	435.1**	12	51.6	136	11.9	5.7	19.9	30.0	13	3	1	2172	2.50	
Provident Life & Accident	698.4**	-2	33.1	19	4.7	3.9	7.7	8.5	11	7	38	1320	2.59	
Reliance Group Holdings	677.3	4	12.4	213	1.8	0.6	NA	-14.2	NM	-3	NA	513	-0.60	
Safeco	860.3**	-2	72.5	-15	8.4	9.7	11.4	12.2	13	11	8	4020	4.76	
St. Paul	1114.0	1	88.0	-17	7.9	9.6	-10.1	-11.7	NM	6	NA	3349	-6.22	
Travelers	525.0	3	73.5	15	14.0	12.6	19.7	24.4	15	5	13	4043	3.74	
Travelers	2849.3	1	194.5	257	6.8	1.9	NA	-15.9	NM	0	NA	4213	-7.35	
Unitrin ↑	336.3	5	39.3	1	11.7	12.2	7.9	8.4	14	NA	NA	2319	3.15	
UNUM	822.6	10	76.0	5	9.2	9.7	25.0	15.7	14	4	33	4226	3.78	
USF&G	875.0	-7	23.0	475	2.6	0.4	NM	0.7	NM	-16	NA	1521	0.06	
USLife	382.8	6	20.5	17	5.3	4.9	7.4	8.1	12	0	4	849	3.18	
Zenith National Insurance	143.3	10	12.6	41	8.8	6.8	7.7	7.4	23	1	-8	515	1.17	
SAVINGS & LOAN														
GROUP COMPOSITE	2679.5	-16	188.9	14	7.1	5.2	5.5	6.4	17	5	-2	8469	1.27	
Ahmanson (H. F.)	812.2**	-16	32.9	43	4.0	2.4	6.4	5.4	14	10	-8	2088	1.27	
California Federal Bank	299.9**	-22	10.5	NM	3.5	NM	NM	-5.1	NM	-7	NA	462	-11.55	
Coast Savings Financial	151.6**	-18	4.1	42	2.7	1.6	NM	10.4	6	-9	-12	225	2.31	

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4-23 \$ MIL	12 MONTH EARNIN PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Golden West Financial	474.9	-11	71.6	2	15.1	13.2	6.9	16.5	9	17	15	2701	4.4	
Great Western Financial	750.2**	-17	45.2	-10	6.0	5.6	5.0	1.4	75	3	-20	2264	0.2	
Standard Federal Bank	190.7**	-7	24.6	10	12.9	10.9	8.0	15.5	8	11	6	729	3.0	
18 OFFICE EQUIPMENT & COMPUTERS														
INDUSTRY COMPOSITE	48090.3	7	1301.0	-30	2.7	4.1	-2.9	-5.9	NM	2	8	169951	-0.9	
(a) BUSINESS MACHINES & SERVICES														
GROUP COMPOSITE	3901.1	8	218.8	30	5.6	4.6	14.8	17.2	20	10	6	16620	1.4	
Bell & Howell	162.0	6	0.8	NM	0.5	NM	6.9	-22.3	NA	-18	NA	NA	-5.0	
CompuCom Systems	200.9	26	1.9	72	0.9	0.7	9.6	19.1	13	30	33	105	0.2	
CUC International (11)	198.4**	17	17.8	NM	9.0	NM	34.2	39.2	35	NA	5	2065	0.8	
Deluxe	405.7	5	51.8	6	12.8	12.7	22.2	25.0	18	11	8	3708	2.4	
HON Industries	186.1	17	8.1	13	4.4	4.5	18.1	24.3	19	4	15	757	1.2	
Intelligent Electronics (11)	570.2	-17	6.7	-37	1.2	1.5	8.2	7.6	23	183	70	489	0.5	
MicroAge(3)	364.6	57	2.1	70	0.6	0.5	10.8	9.7	13	20	4	73	1.0	
Miller (Herman) (7)	217.5	9	7.2	85	3.3	2.0	-0.6	-0.6	NM	7	NA	618	-0.0	
Pitney Bowes	833.4	3	82.1	22	9.8	8.3	15.9	19.3	20	11	9	6464	2.0	
Reynolds & Reynolds (3)	171.1	6	13.6	45	8.0	5.8	12.9	18.0	16	6	10	893	2.0	
Standard Register	169.3	0	9.4	7	5.5	5.2	10.6	11.5	12	4	-3	495	1.4	
Tech Data (11)	283.8	42	5.7	39	2.0	2.0	18.4	18.1	19	52	21	366	1.2	
Wallace Computer Services (5)	138.1	4	11.6	6	8.4	8.3	10.1	11.2	14	14	6	588	1.8	
(b) COMPUTERS & PERIPHERALS														
GROUP COMPOSITE	37606.4	5	338.8	-71	0.9	3.3	-7.7	-13.3	NM	0	-2	86386	-3.3	
AM International (5)	137.1	-15	-10.8	NM	NM	NM	NM	NM	NM	-20	NA	13	-3.2	
Amdahl	380.7	-24	-239.7	NM	NM	0.9	NM	-18.3	NM	12	NA	665	-2.2	
Apple Computer (3)	1973.9	15	110.9	-18	5.6	7.9	17.0	22.0	12	20	13	5804	4.1	
AST Research (6)	370.3	53	11.0	-34	3.0	6.9	13.3	13.2	8	32	36	431	1.6	
Compaq Computer	1611.4	106	102.4	126	6.4	5.8	13.8	13.5	15	37	0	3892	3.3	
Conner Peripherals	558.3	27	-22.5	NM	NM	5.6	7.9	11.8	10	77	41	634	1.2	
Cray Research	202.6	23	15.0	287	7.4	2.4	NM	-0.5	NM	4	NA	755	-0.1	
Data General (3)	267.4	-2	-7.6	NM	NM	NM	NM	-4.2	NM	-6	NA	318	-0.5	
Dell Computer (11)	620.3	117	31.3	103	5.0	5.4	27.3	29.7	11	104	31	1023	2.5	
Digital Equipment (6)	3453.7	6	-30.1	NM	NM	NM	NM	-47.2	NM	-3	NA	5591	-17.5	
Hewlett-Packard (2)	4573.0	18	261.0	-14	5.7	7.8	11.1	10.9	22	11	3	18539	3.3	
Intergraph	282.1	2	-10.2	NM	NM	1.1	-0.3	-0.6	NM	5	-25	476	-0.0	
International Business Machines	13058.0	-7	-285.0	NM	NM	4.6	NM	-28.2	NM	-5	NA	27286	-13.6	
Maxtor (9)	345.6	18	-19.7	NM	NM	7.9	14.6	19.4	5	8	-21	197	1.4	
Quantum (9)	506.6	47	26.3	52	5.2	5.0	17.7	25.9	6	25	51	554	2.0	
Seagate Technology (6)	754.1	-3	39.0	-4	5.2	5.2	17.6	23.0	5	21	-4	1033	3.1	
Silicon Graphics (6)	270.7	30	20.2	NM	7.5	NM	-9.5	-10.7	NM	48	NA	2040	-1.1	
Storage Technology	333.5	0	6.4	-49	1.9	3.7	2.4	1.0	NM	36	-8	1120	0.2	
Sun Microsystems (6)	1141.3	20	51.7	-16	4.5	6.5	8.4	7.4	23	45	27	2740	1.1	
Tandem Computers (3)	517.6	3	11.1	26	2.1	1.8	4.4	4.8	20	12	NA	1205	0.5	
Tandy	881.4**	3	22.1	-45	2.5	4.7	6.9	5.5	21	2	-5	1841	1.4	
3Com (7)	161.4	52	10.2	NM	6.3	NM	NA	14.4	32	17	-28	858	0.9	
Unisys	1907.5**	-5	56.8	18	3.0	2.4	11.4	21.1	10	-33	NA	1862	1.1	
Xerox	3298.0**	0	189.0	67	5.7	3.4	-1.0	-7.9	NM	-4	NA	7510	-2.7	
(c) COMPUTER SOFTWARE & SERVICES														
GROUP COMPOSITE	6582.8	17	743.4	46	11.3	9.1	17.5	23.0	28	18	18	66945	1.4	
Automatic Data Processing (6)	613.0**	12	92.5	16	15.1	14.6	16.4	20.1	24	7	15	6832	2.0	
Ceridian	224.4	9	12.9	-38	5.7	10.1	NM	NM	NM	-19	NA	637	-0.8	
Cisco Systems (5)	145.1	96	38.7	110	26.7	24.9	35.5	35.5	44	247	153	5189	0.9	
Comdisco (3)	530.0**	-1	21.0	NM	4.0	NM	9.0	11.5	9	8	-17	620	1.7	
Electronic Data Systems	2059.8	4	151.4	14	7.4	6.7	15.7	20.5	24	24	15	8052	1.3	
First Data	346.8	23	36.3	21	10.5	10.6	14.7	18.6	26	NA	NA	3891	1.3	
Gtech Holdings (10)	138.1	32	8.2	140	5.9	3.3	14.6	28.0	37	NA	NA	1439	0.9	
Lotus Development	227.0	0	12.3	-41	5.4	9.1	13.5	17.3	15	14	-3	1037	1.7	
Microsoft (6)	958.0	41	243.0	36	25.4	26.3	29.8	29.8	27	55	52	22704	2.9	
Novell (2)	260.2	27	70.9	36	27.2	25.4	25.3	25.6	35	58	55	9334	0.8	
Oracle Systems (7)	370.1	28	29.2	74	7.9	5.8	NA	22.2	48	39	27	4841	0.7	
Safeguard Scientifics	232.3	23	3.6	20	1.5	1.6	9.1	10.4	9	14	2	93	2.0	
SynOptics Communications	152.7	123	21.9	334	14.3	7.4	29.1	29.2	40	60	45	2132	2.6	
Western Digital (6)	325.4	42	1.6	NM	0.5	NM	NM	13.5	9	-10	NA	143	0.5	
19 PAPER & FOREST PRODUCTS														
INDUSTRY COMPOSITE	20807.8	3	586.8	52	2.8	1.9	3.0	3.8	43	3	-16	59609	0.9	
(a) FOREST PRODUCTS														
GROUP COMPOSITE	7718.9	8	335.9	236	4.4	1.4	3.8	6.2	36	0	NA	22390	1.37	
Boise Cascade	984.0	3	-12.1	NM	NM	NM	NM	-13.6	NM	-5	NA	977	-4.0	
Georgia-Pacific	2944.0	4	41.0	NM	1.4	NM	NM	-0.6	NM	0	NA	5947	-0.15	
Louisiana-Pacific	649.2	37	87.7	144	13.5	7.6	12.7	16.8	17	4	-3	3959	4.15	

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CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4/23 \$ MIL.	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4/23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Bope & Talbot	167.6	32	11.0	NM	6.6	0.1	4.4	4.8	34	5	NA	295	0.75	
Meyerhaeuser	2341.0	6	177.4	105	7.6	3.9	7.4	12.7	19	-2	-5	9014	2.27	
Willamette Industries	633.0	13	30.9	30	4.9	4.2	6.0	7.6	25	13	-17	2198	1.62	
PAPER														
GROUP COMPOSITE	13089.0	1	250.9	-12	1.9	2.2	2.6	2.8	49	4	-16	37219	0.68	
Booster	386.9	4	-22.9	NM	NM	NM	NM	-10.8	NM	3	NA	816	-2.45	
Champion International	1267.0	6	-28.1	NM	NM	NM	NM	-1.1	NM	2	NA	3170	-0.38	
Chesapeake	209.3	0	-0.8	NM	NM	1.1	4.0	3.0	43	8	-22	481	0.48	
Consolidated Papers	241.6	11	17.5	21	7.2	6.7	4.8	5.8	39	9	-13	2093	1.22	
Fort Howard	284.8	3	-26.2	NM	NM	NM	NM	NM	NA	-57	NA	NA	-13.34	
International Paper	3400.0	1	64.0	-38	1.9	3.1	2.5	1.6	80	9	-20	8068	0.82	
James River Corp. of Virginia	1113.6	-2	-10.1	NM	NM	NM	NM	-8.8	NM	NA	NA	1652	-1.79	
Kimberly-Clark	1702.0	-2	124.8	-6	7.3	7.6	11.3	15.4	23	8	5	7716	2.10	
Klanville	508.5	2	28.1	203	5.5	1.9	NM	6.2	24	-5	-42	1103	0.38	
Lead	1135.5	4	25.6	45	2.3	1.6	3.5	3.0	62	2	-32	2761	0.76	
Platt	361.5	8	22.2	40	6.1	4.7	5.9	8.9	17	10	-9	1443	2.92	
Pott Paper	1155.6	-7	23.5	-48	2.0	3.6	6.4	7.2	17	4	-12	2513	1.97	
Union Camp	761.5	0	12.5	NM	1.6	NM	4.5	3.7	44	6	-26	3117	1.01	
Westvaco (2)	561.1	4	20.9	-23	3.7	5.0	5.4	7.3	18	9	-5	2287	1.96	
PUBLISHING & BROADCASTING														
INDUSTRY COMPOSITE	11709.2	5	528.3	32	4.5	3.6	6.1	7.4	38	7	-4	72776	1.22	
BROADCASTING														
GROUP COMPOSITE	1931.2	9	156.4	161	8.1	3.4	9.1	14.3	26	NA	NA	16431	2.96	
Capital Cities/ABC	1178.3	8	70.5	69	6.0	3.8	9.5	11.0	21	10	5	8896	25.25	
Daylord Entertainment	138.1	11	0.1	NM	0.1	NM	6.7	15.8	50	NA	NA	1592	0.76	
Multimedia	144.1	14	15.2	47	10.6	8.2	19.7	NM	20	NA	32	1261	1.73	
Paramount	470.7	9	70.6	571	15.0	2.4	7.1	16.7	37	11	NA	4683	1.05	
PUBLISHING														
GROUP COMPOSITE	9778.0	4	371.9	9	3.8	3.6	5.4	5.9	44	6	-6	56345	0.94	
Commerce Clearing House	164.4	-19	7.5	-59	4.6	8.9	-18.6	-19.2	NM	-5	NA	573	-0.69	
How Jones	463.4	6	30.9	15	6.7	6.2	7.7	8.4	25	10	-19	3081	1.21	
John & Bradstreet	1071.4	-3	105.2	7	9.8	8.9	26.0	26.0	19	4	3	10583	3.14	
McGraw-Hill	844.7	7	66.3	22	7.9	6.9	14.1	22.6	21	-1	2	7509	2.48	
Night-Rider	583.9	5	23.1	-7	4.0	4.5	9.8	12.2	22	7	-1	3126	2.62	
McGraw-Hill	466.9	3	15.3	23	3.3	2.7	12.8	17.2	19	2	2	3009	3.19	
Media General	144.2	2	3.4	24	2.4	1.9	5.0	9.0	26	-9	-3	496	0.73	
Meredith (6)	198.7	12	5.4	8	2.7	2.8	0.5	0.8	NM	-2	-42	449	0.18	
New York Times	454.5	4	10.9	-19	2.4	3.1	NM	-1.4	NM	5	NA	2321	-0.18	
Parsons (E. W.)	285.7	-9	32.6	122	11.4	4.7	12.7	16.9	17	7	10	2108	1.67	
Time Warner	3258.0	8	-15.0	NM	NM	0.1	1.0	-6.4	NM	48	NA	12323	-1.39	
Times Mirror	868.4	3	27.1	-2	3.1	3.3	3.3	3.3	71	3	-30	4034	0.44	
United	434.5	-8	29.7	90	6.8	3.3	10.6	15.2	27	-7	-4	3560	2.02	
Washington Post	361.7	10	28.5	45	7.9	6.0	12.8	13.8	21	8	-10	2832	11.56	
Western Publishing Group (11)	177.4**	15	1.1	-66	0.6	2.0	10.6	7.8	20	12	-14	340	0.80	

SERVICE INDUSTRIES

INDUSTRY COMPOSITE	19671.9	11	674.0	6	3.4	3.6	10.7	15.4	20	13	11	60742	1.40
INSTRUCTION & ENGINEERING													
GROUP COMPOSITE	4024.8	11	82.6	7	2.1	2.1	12.2	13.3	22	9	20	7137	1.33
Logee Enterprises (10)	149.0	5	0.2	-86	0.2	1.1	4.1	4.0	35	13	3	155	0.34
McGraw-Hill	648.9	-1	19.1	6	2.9	2.8	19.8	18.8	14	11	9	1293	1.58
Parsons (2)	1806.9	16	35.7	11	2.0	2.1	14.9	15.2	25	13	22	3460	1.69
Star Wheeler	586.5	20	12.7	24	2.2	2.1	8.7	12.4	21	0	53	993	1.35
Woods Engineering Group (3)	273.1	1	7.0	-14	2.6	3.0	18.1	18.2	24	37	41	613	1.10
Morrison Knudsen	560.2**	10	7.9	17	1.4	1.3	4.8	3.9	42	6	-30	624	0.48
INDUSTRIAL DISTRIBUTION													
GROUP COMPOSITE	6400.6	20	221.3	32	3.5	3.1	11.0	13.0	22	10	8	16917	1.42
Ames Resources & Energy	183.9	597	0.4	164	0.2	0.6	8.3	10.5	19	59	-16	19	0.24
Chemical Electronics	142.1	13	5.6	-26	3.9	6.0	14.7	14.7	14	22	34	391	2.31
Flow Electronics	551.4	46	18.0	94	3.3	2.4	11.3	16.0	16	25	33	952	2.00
Net (6)	582.5	37	18.2	46	3.1	2.9	7.7	7.8	17	5	14	1108	1.83
Parsons (6)	210.8	1	2.4	507	1.1	0.2	2.3	1.7	83	1	NA	176	0.29
Scientific International	228.2	17	6.0	22	2.6	2.5	14.9	18.5	17	-18	3	460	1.73
Woods Engineering Group (3)	1223.6	6	5.0	5	2.0	2.0	12.0	12.0	12	12	12	2000	1.00

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		RETURN					5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4-23 \$ MIL	12 MONTHS EARNING PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	MARGINS		ON INVESTED CAPITAL %	ON COMMON EQUITY %	P/E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %			
					1ST QUARTER 1993 %	1ST QUARTER 1992 %								
Office Depot	582.1	34	14.1	51	2.4	2.2	8.0	11.1	47	87	38	1976	0.70	
Premier Industrial (7)	167.9	7	20.0	8	11.9	11.8	21.5	22.5	27	4	13	2287	0.99	
Staples (11)	262.4	28	10.5	NM	4.0	NM	5.4	7.0	36	33	NA	612	0.75	
United Stationers (4)	378.8	45	5.6	63	1.5	1.3	8.2	7.0	20	10	-13	324	0.89	
Univar (10)	415.6	1	0.5	-63	0.1	0.3	3.1	3.0	40	15	NA	206	0.26	
Willcox & Gibbs	130.9	30	2.5	9	1.9	2.3	NM	-12.6	NM	4	NA	119	-0.61	
Wyle Laboratories (11)	144.9	19	4.8	70	3.3	2.3	10.2	12.2	11	7	20	169	1.45	
(c) POLLUTION CONTROL GROUP COMPOSITE	3131.7	6	250.5	8	8.0	7.8	10.3	18.7	19	18	10	20828	1.63	
Air & Water Technologies (2)	170.8	11	0.4	148	0.2	0.1	NM	-4.5	NM	116	NA	264	-0.39	
Browning-Ferris Industries (3)	825.5	6	50.8	31	6.2	4.9	9.8	14.0	22	8	-11	4450	1.21	
Waste Management	2135.3	6	199.3	4	9.3	9.5	11.0	21.5	17	20	17	16115	1.88	
(d) PRINTING & ADVERTISING GROUP COMPOSITE	1901.0	1	25.8	-69	1.4	4.4	12.6	18.4	18	12	6	7758	1.41	
ADVO (3)	199.5	9	1.4	133	0.7	0.3	18.1	21.4	23	23	26	369	0.97	
Banta	162.0	6	8.3	13	5.1	4.8	12.2	14.2	17	13	12	556	2.54	
Donnelley (R. R.) & Sons	960.3	2	-22.1	NM	NM	3.8	7.3	9.6	23	10	1	4158	1.15	
Interpublic Group	389.8**	-3	11.0	14	2.8	2.4	19.0	22.2	18	15	14	2102	1.52	
Valassis Communications (6)	189.4**	-9	27.2	-6	14.3	13.8	NA	NM	7	NA	NA	574	1.98	
(e) OTHER SERVICES GROUP COMPOSITE	4213.9	10	93.8	19	2.2	2.1	8.9	13.0	20	15	7	8102	1.00	
Adia Services	208.7**	27	3.6	228	1.7	0.7	7.3	7.3	16	13	-9	238	1.17	
American Bldg. Maintenance (2)	187.2	3	2.4	12	1.3	1.2	11.3	11.9	14	9	16	180	1.46	
CDI	217.5	7	0.9	38	0.4	0.3	3.2	3.4	41	12	-24	163	0.20	
Handleman (8)	335.7	10	14.3	19	4.3	3.9	13.3	15.3	11	14	2	494	1.30	
InaCom	331.3	36	2.8	61	0.8	0.7	11.6	11.6	13	36	-1	149	1.37	
Manpower	700.5	1	-17.3	NM	NM	NM	NM	-24.1	NM	94	NA	1175	-0.51	
Mid Atlantic Medical Services	160.8	19	5.2	49	3.3	2.6	32.3	31.9	15	135	62	223	1.05	
Olsten	267.4**	22	5.3	47	2.0	1.6	13.6	12.5	27	21	4	664	0.92	
PHH (8)	487.0	2	14.4	8	3.0	2.8	NA	12.5	13	8	12	707	3.17	
Pinkerton's	164.3	3	1.2	1	0.8	0.8	7.3	7.5	18	90	-3	158	1.05	
Safety-Kleen	181.8	5	8.6	-29	4.8	7.0	5.7	8.5	24	25	3	995	0.72	
Service Corp. International	224.4	12	29.2	16	13.0	12.5	7.1	13.3	16	3	13	1442	1.17	
ServiceMaster	585.1	12	21.2	10	3.6	3.7	24.4	62.0	11	NA	14	1402	2.58	
Wackenhut	162.1	8	1.9	10	1.1	1.1	3.1	2.8	84	6	-17	110	0.17	
22 TELECOMMUNICATIONS														
INDUSTRY COMPOSITE	48724.3	4	3822.9	-4	7.8	8.5	9.7	15.9	18	3	3	289268	2.90	
(a) EQUIPMENT & SERVICES GROUP COMPOSITE	21753.6	5	1189.3	4	5.5	5.5	11.8	19.0	20	9	3	98490	2.56	
American Telephone & Telegraph	15719.0	2	996.0	13	6.3	5.7	13.2	20.7	19	7	-7	75198	2.93	
Communications Satellite	166.3	30	18.3	18	11.0	12.1	6.2	7.4	26	3	13	1150	2.29	
DSC Communications	156.2	52	11.4	NM	7.3	NM	14.2	11.5	44	-2	-7	1401	0.73	
MCI Communications	2810.0	12	168.0	19	6.0	5.6	10.8	19.8	21	21	36	12591	2.33	
Scientific-Atlanta (6)	184.1	26	6.9	72	3.7	2.7	6.8	6.8	40	8	-28	924	0.63	
Sprint	2718.0	9	-11.3	NM	NM	4.3	7.8	11.1	23	12	23	7227	1.45	
(b) TELEPHONE COMPANIES GROUP COMPOSITE	26970.7	3	2633.6	-8	9.8	10.9	9.1	14.9	17	2	-1	190777	3.08	
Alltel	546.7	8	63.2	27	11.6	9.8	11.3	18.0	21	16	4	4882	2.57	
Ameritech	2796.5	4	300.0	-11	10.7	12.5	11.9	18.7	16	-1	2	20837	4.87	
Bell Atlantic	3163.3	2	372.2	7	11.8	11.2	10.5	18.0	16	-3	1	22803	3.26	
BellSouth	3833.7	3	411.2	-11	10.7	12.3	8.2	11.5	16	3	-2	26644	3.27	
Cincinnati Bell	271.2	-9	20.8	44	7.7	4.9	6.8	7.2	34	5	-14	1388	0.66	
GTE	4826.0	0	460.0	17	9.5	8.1	9.7	18.4	17	7	2	32766	2.00	
Nynex	3320.2	3	331.1	-2	10.0	10.4	8.7	13.4	14	0	-6	17761	6.34	
Pacific Telesis Group	2525.0	4	2.0	NM	0.1	11.5	7.2	13.4	22	0	2	18887	2.14	
Rochester Telephone	211.0	9	18.0	18	8.5	7.9	8.2	12.0	18	15	4	1304	2.16	
Southern New England Telecomms.	402.3**	1	36.5	-7	9.1	9.8	7.3	12.5	15	2	-1	2335	2.51	
Southwestern Bell	2457.8	7	302.5	16	12.3	11.4	9.0	14.4	17	2	4	23203	4.47	
US West	2617.0	4	316.1	0	12.1	12.6	8.8	14.0	15	4	-6	17967	2.85	
23 TRANSPORTATION														
INDUSTRY COMPOSITE	29021.7	5	370.4	341	1.3	0.3	2.2	1.3	NM	-4	-17	72493	0.25	
(a) AIRLINES GROUP COMPOSITE	12809.6	8	-345.1	NM	NM	NM	-8.0	-33.4	NM	-3	NA	16283	-7.03	
Alaska Air Group	250.2	-3	-15.0	NM	NM	NM	NM	-47.6	NM	-6	NA	228	-6.47	
America West Airlines	316.6	-6	2.1	NM	0.7	NM	NM	NM	NM	NA	NA	14	-5.04	
AMR	3814.0	9	-22.0	NM	NM	0.2	NM	-15.4	NM	5	NA	5203	-6.87	
Delta Air Lines (6)	2926.6	4	-133.9	NM	NM	NM	NM	-27.4	NM	-5	NA	2847	-12.55	

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		MARGINS		RETURN		5-YEAR GROWTH			MARKET VALUE SHARES OUTSTANDING 4-23 \$ MIL.	12 MONTHS' EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL.	CHANGE FROM 1992 %	1ST QUARTER 1993 %	1ST QUARTER 1992 %	ON INVESTED CAPITAL %	ON COMMON EQUITY %	P-E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %		
Northwest Airlines	453.8	21	22.7	68	5.0	3.6	8.2	11.7	35	9	16	3456	1.06
Delta	3332.0	12	-138.0	NM	NM	NM	NM	-63.9	NM	-16	NA	3496	-18.73
Air Group	1716.3	4	-61.0	NM	NM	NM	NM	NM	NM	-2	NA	1039	-12.90
RAILROADS													
GROUP COMPOSITE	8069.6	3	595.2	11	7.4	6.9	6.7	11.9	21	-7	3	43173	2.38
Burlington Northern	1170.0	-1	82.0	-10	7.0	7.7	9.2	20.3	17	-11	-5	4907	3.19
Consolidated Rail	816.0	2	46.0	21	5.6	4.8	8.0	9.9	16	-9	12	4196	3.40
X	2123.0	2	-9.0	NM	NM	3.0	NM	-1.7	NM	-7	-40	7722	-0.50
nois Central	142.7	3	24.0	14	16.8	15.2	11.9	22.3	16	201	146	1174	1.76
ansas City Southern Industries	214.6**	23	22.1	51	10.3	8.3	10.6	15.6	20	7	11	1321	1.59
orfolk Southern	1120.0**	2	139.0	0	12.4	12.6	7.4	13.2	16	-4	-4	8735	3.96
anta Fe Pacific	653.3	6	127.1	351	19.5	4.6	8.4	15.3	19	-16	-27	2909	0.86
ion Pacific	1830.0	5	164.0	13	9.0	8.3	9.0	16.1	16	3	-11	12208	3.66
TRANSPORTATION SERVICES													
GROUP COMPOSITE	3615.2	4	38.4	NM	1.1	NM	5.5	6.5	25	5	-10	5319	1.45
rborne Freight	398.8	11	3.6	240	0.9	0.3	2.6	1.7	94	22	-9	451	0.25
ltilmate Express (7)	1939.8	3	10.5	NM	0.5	NM	5.1	5.9	29	8	NA	2813	1.77
der System	1276.6	3	24.2	39	1.9	1.4	6.7	8.3	18	-1	-11	2055	1.52
TRUCKING & SHIPPING													
GROUP COMPOSITE	4527.3	4	81.9	-13	1.8	2.2	7.3	9.0	20	4	5	7719	1.39
exander & Baldwin	186.4**	10	18.0	20	9.7	8.9	5.8	11.1	18	4	-12	1112	1.37
merican President	628.8**	-5	12.1	-32	1.9	2.7	11.4	16.5	11	-7	6	636	4.57
ansas Best	229.2	0	2.2	-43	0.9	1.7	10.6	15.0	13	0	24	198	0.77
arolina Freight	187.3	9	-0.4	NM	NM	NM	NM	-4.9	NM	-1	NA	90	-0.92
nsolidated Freightways	993.0	0	8.3	NM	0.8	NM	3.4	-3.0	NM	-9	NA	605	-0.38
ATX	237.1**	2	18.6	18	7.8	6.8	6.5	3.4	38	23	-8	704	0.95
reyhound Lines	147.0	-4	-4.4	NM	NM	NM	12.3	34.2	12	NA	NA	199	1.63
unt (J. B.) Transport Services	247.2	23	5.0	-21	2.0	3.1	6.9	11.5	19	18	6	686	0.97
adway Services	856.1	7	20.3	-34	2.4	3.8	12.9	13.4	17	9	23	2344	3.46
IT Freightways	213.1	18	4.0	50	1.9	1.5	8.2	13.9	21	NA	NA	475	1.26
llow	602.2	6	-1.7	NM	NM	2.3	5.0	5.4	26	5	-4	667	0.93
UTILITIES & POWER													
GROUP COMPOSITE	49003.2	8	5014.7	19	10.2	9.3	7.2	11.3	15	3	-1	241549	2.21
ELECTRIC, WATER, & COGENERATION													
GROUP COMPOSITE	39088.7	6	4075.4	15	10.4	9.6	7.1	11.3	15	2	-1	214072	2.24
egheny Power System	614.7	-1	71.9	0	11.7	11.6	6.9	11.2	14	4	-2	2968	3.62
merican Electric Power	1321.0	2	148.2	3	11.2	11.1	7.2	11.1	15	1	-2	6828	2.55
altimore Gas & Electric	683.8	2	65.8	11	9.6	8.9	6.4	9.0	16	7	-10	3667	1.64
oston Edison	354.8	3	15.5	12	4.4	4.0	8.1	11.0	14	1	1	1326	2.11
arolina Power & Light	707.5	7	94.0	0	13.3	14.3	8.0	14.5	14	1	9	5324	2.35
terior Energy	598.0	1	51.3	32	8.6	6.6	5.4	7.8	12	-1	-11	2679	1.58
entral & South West	820.0	20	57.0	-10	7.0	9.2	7.5	12.9	16	3	2	6193	2.00
entral Maine Power	236.0	-4	21.6	0	9.1	8.7	7.6	10.8	13	9	2	710	1.81
psco	211.3	14	17.6	31	8.3	7.2	6.6	12.5	15	1	1	1130	2.26
AS Energy	1008.5	4	74.9	39	7.4	5.6	NA	-24.9	NM	-11	NA	1719	-3.45
ommonwealth Edison	1483.4	4	67.5	0	4.5	4.7	5.3	7.8	14	-5	-40	6026	2.08
ommonwealth Energy System	276.9	7	24.1	18	8.7	7.9	8.7	13.4	11	2	-5	450	4.18
nsolidated Edison Co. of N. Y.	1586.1	9	153.9	32	9.7	8.0	8.1	12.4	14	4	1	8246	2.60
etroit Edison	874.8	-2	135.2	-13	15.5	17.4	8.9	17.3	10	3	4	5127	3.65
ominion Resources	1105.8	17	133.4	26	12.1	11.2	6.8	11.1	16	6	-2	7230	2.81
PL	349.6	19	55.5	4	15.9	18.3	NA	14.1	15	5	4	2109	1.36
QE	286.7	-4	36.7	1	12.8	12.1	6.5	12.1	13	0	9	1833	2.68
uke Power	1007.8	3	141.7	33	14.1	10.8	7.5	11.7	17	5	2	8143	2.39
orida Progress	493.3	6	37.7	10	7.6	7.4	6.3	10.3	17	NA	-4	3031	2.07
L Group	1132.4	4	103.0	22	9.1	7.8	7.4	12.6	14	3	-6	6809	2.70
eneral Public Utilities	881.2	-1	88.0	7	10.0	9.2	6.9	10.8	13	4	0	3352	2.33
awaiian Electric Industries	279.3	18	11.0	-26	3.9	6.3	11.3	10.6	15	9	-1	854	2.37
oston Industries	992.2	3	36.2	NM	3.6	NM	6.8	12.2	15	0	-6	6039	3.16
S Industries	213.1	18	14.2	34	6.6	5.8	6.8	10.9	15	15	-2	767	2.05
inois Power	395.1	3	27.9	87	7.1	3.9	4.9	7.5	17	-6	-19	1825	1.41
S&E Energy	238.4	16	21.7	39	9.1	7.6	6.4	12.1	15	5	1	1249	2.55
ontana Power	302.8**	12	40.0	-4	13.2	15.4	7.6	11.7	13	2	11	1373	1.98
ew York State Electric & Gas	522.4	7	74.0	-3	14.2	15.6	6.1	10.1	15	7	17	2413	2.32
agara Mohawk Power	1136.0	10	127.0	24	11.2	9.9	NA	11.0	12	4	65	3000	1.79
ortheast Utilities	958.2	26	75.8	-11	7.9	11.2	5.5	11.2	15	0	-4	3697	1.88
orthern States Power	640.7	14	54.5	23	8.5	7.8	5.7	9.6	18	3	-4	2833	2.48
io Edison	604.2	3	74.5	-1	12.3	12.8	7.0	10.5	15	-2	-3	3738	1.69
klahoma Gas & Electric	303.4	16	6.7	NM	2.2	NM	7.0	12.0	13	1	-1	1422	2.68
range & Rockland Utilities	264.0	10	15.1	25	5.7	5.0	8.0	12.3	13	6	1	609	3.37
acific Gas & Electric	2463.8	2	255.7	-8	10.4	11.4	8.1	13.0	13	3	14	14193	2.53
ennsylvania Power & Light	727.4	-4	115.8	2	15.9	14.9	7.1	13.1	15	4	3	4500	2.04

CORPORATE SCOREBOARD

COMPANY	SALES		PROFITS		MARGINS		RETURN			5-YEAR GROWTH		MARKET VALUE OUTSTANDING \$ MIL	12 MONTH EARNINGS PER SHARE
	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 \$ MIL	CHANGE FROM 1992 %	1ST QUARTER 1993 %	1ST QUARTER 1992 %	ON INVESTED CAPITAL %	ON COMMON EQUITY %	P-E 4-23	COMMON EQUITY %	EARNINGS PER SHARE %		
Philadelphia Electric	1071.5	-1	162.4	84	15.2	8.2	8.0	12.3	13	3	-13	6478	2.25
Pinnacle West Capital	375.1	8	35.4	120	9.4	4.6	6.4	11.5	11	-9	17	1896	1.95
Portland General	277.7	17	39.6	34	14.3	12.5	7.1	13.8	10	-5	2	987	2.1
Potomac Electric Power	339.5	4	13.0	62	3.8	2.5	5.6	10.5	16	9	-5	3015	1.68
Public Service Co. of Colorado	607.4	15	58.7	27	9.7	8.8	8.3	12.4	13	5	-1	1725	2.36
Public Service Co. of New Mexico	248.6	5	12.0	-26	4.8	6.8	NM	-18.4	NM	-8	NA	527	-2.76
Public Service Enterprise Group	1594.7	5	224.1	16	14.1	12.8	7.4	11.2	15	5	-3	7915	2.28
Puget Sound Power & Light	324.0	16	54.7	14	16.9	17.1	8.1	12.1	13	4	1	1647	2.21
Rochester Gas & Electric	272.3	6	29.1	3	10.7	11.0	NA	9.6	15	4	15	957	1.84
San Diego Gas & Electric	492.3	4	58.6	8	11.9	11.5	8.1	14.2	15	3	4	3005	1.80
Scana	321.8	8	46.7	31	14.5	12.0	6.6	11.1	15	6	0	2009	3.04
SCEcorp	1785.0	4	159.4	-5	8.9	9.8	7.2	12.3	15	4	0	10774	3.27
Southern	1840.0	2	202.2	-5	11.0	11.7	7.7	13.1	14	3	6	13588	2.99
Teco Energy	282.3	8	25.7	-6	9.1	10.4	7.7	15.4	18	3	6	2666	2.56
Texas Utilities	1142.5	8	181.0	56	15.8	10.9	8.0	10.4	14	5	-7	9942	3.17
Union Electric	453.0	5	44.2	39	9.8	7.4	7.8	13.9	13	3	1	4034	2.95
UtiliCorp United	480.9	31	34.8	22	7.2	7.8	6.5	7.9	19	22	-3	1005	1.40
Washington Water Power	213.0	36	36.0	41	16.9	16.2	8.2	12.8	13	5	2	996	3.00
Wheelabrator Technologies	245.5	-24	33.4	26	13.6	8.3	11.1	17.6	20	34	38	3715	0.98
Wisconsin Energy	443.3	5	59.4	7	13.4	13.1	7.1	11.2	16	6	0	2809	1.70
WPL Holdings	203.8	14	20.6	6	10.1	10.9	7.6	12.1	17	4	2	973	2.14
(b) GAS, OIL, & TRANSMISSION GROUP COMPOSITE	9914.5	15	939.4	41	9.5	7.8	7.6	11.5	18	3	11	27477	1.93
Brooklyn Union Gas (3)	489.4	14	71.8	23	14.7	13.6	7.0	11.5	14	9	-4	1113	2.64
Eastern Enterprises	368.4	3	23.0	-23	6.3	8.4	4.9	6.0	21	3	-7	636	1.37
El Paso Natural Gas	210.9	21	30.8	9	14.6	16.3	7.5	11.4	17	-14	NA	1355	2.12
Enron	1838.6	23	148.2	28	8.1	7.7	9.2	14.8	19	10	72	6656	3.02
Enserch	958.5	23	38.2	11	4.0	4.4	NA	-3.6	NM	-2	NA	1246	-0.32
Equitable Resources	269.8	10	30.8	18	11.4	10.7	8.4	11.0	19	5	11	1197	2.06
Laclede Gas (3)	214.1	32	20.3	53	9.5	8.2	8.9	13.8	13	1	-5	387	3.42
MCN	556.7	4	54.3	-5	9.8	10.7	8.6	12.2	17	10	-6	965	1.95
National Fuel Gas (3)	391.4	13	45.2	13	11.5	11.6	7.6	9.9	16	10	4	1078	1.98
Nicor	672.6	19	46.4	20	6.9	6.8	9.4	16.0	15	5	6	1551	1.82
Oneok (4)	313.9	19	31.2	34	10.0	8.8	NA	11.5	15	2	26	609	1.52
Panhandle Eastern	612.6	-10	69.5	15	11.3	8.9	8.2	13.7	12	9	-6	2288	1.82
Piedmont Natural Gas (2)	202.6	17	27.2	11	13.4	14.2	9.0	13.2	16	14	1	612	1.45
Questar	249.8	11	34.9	17	14.0	13.3	9.2	13.6	17	3	25	1278	1.91
Sonat	496.9	18	68.9	61	13.9	10.2	7.0	10.8	20	2	1	2523	2.94
Transco Energy	787.7	19	23.1	NM	2.9	NM	NM	-3.1	NM	-8	NA	594	-0.67
UGI	267.9	10	26.7	0	10.0	11.0	7.0	8.5	20	14	-6	696	1.15
Wicor	261.6	12	23.1	33	8.8	7.4	8.2	11.1	16	3	-6	424	1.75
Williams	751.0	26	125.6	218	16.7	6.6	8.9	15.6	12	4	42	2267	4.07

ALPHABETICAL LIST OF COMPANIES

The number following each company name identifies the Scoreboard category under which it is listed

A	Amdahl 18b	Apple Computer 18b	Bank of New York 3a	Boatmen's Bancshares 3b	Carlisle 15a	Cisco Systems 18c	Consolidated Papers 1
A&P 10c	Amerada Hess 11b	Applied Materials 15c	BankAmerica 3d	Bob Evans Farms 14a	Carnival Cruise Lines 14d	Citicorp 3a	Consolidated Rail 23
Abbott Laboratories 12d	Amenco West 23a	Arbor Drugs 12a	Bankers Trust 3a	Boeing 1	Carolina Freight 23d	Clark Equipment 15b	Consolidated Stores 8
Adams Resources 21b	American Brands 6e	Arco Chemical 4	Banta 21d	Boise Cascade 19a	Carolina Power 24a	Clorox 6d	Continental Bank 3b
Adia Services 21e	American Building 21e	Arkansas Best 23d	Bard (C.R.) 12d	Borden 10b	Carpenter Tech. 16b	CML Group 8	Continental Medical 1
Advanced Micro 9d	American Cyanamid 4	Armco 16b	Barnett Banks 3c	Boston Edison 24a	Carter Hawley Hale 8	CMS Energy 24a	Cooper Industries 9a
ADVO 21d	American Electric 24a	Armstrong World 6b	Baroid 11c	Bowater 19b	Casey's General 10c	Coast Savings 17c	Cooper Tire & Rubber
Aetna Life & Casualty 17b	American Express 17a	Arrow Electronics 21b	Bausch & Lomb 12d	Bradlees 8	Caterpillar 15c	Coastal 11b	Coors (Adolph) 6
AFLAC 17b	American General 17b	Arvin Industries 2b	Baxter International 12d	Briggs & Stratton 15c	CCP Insurance 17b	Coca-Cola 6c	CoreStates Financial 6
Ahmanson (H.F.) 17c	American Greetings 14d	Asarco 16c	Bear Stearns 17a	Brinker International 14a	CDI 21e	Coca-Cola Bottling 6c	Corning 15a
Air & Water Techs. 21c	American Home 12b	Ashland Coal 71a	Bearings 21b	Bristol-Myers Squibb 12b	Centenior Energy 24a	Coca-Cola Enterprises 6c	Costco Wholesale 8
Air Products & Chemicals 4	American Intl. Group 17b	Ashland Oil 11b	Beckman Instruments 9c	Brooklyn Union Gas 24b	Centex 13b	Coleman 9a	Countrywide Credit 1
Airborne Freight 23c	American Medical 12c	AST Research 18b	Becton, Dickinson 12d	Brown Group 6a	Central & South West 24a	Colgate-Palmolive 6d	CPC International 10f
Alaska Air Group 23a	American National 17b	AT&T 22a	Bell & Howell 18a	Brown-Forman 6c	Central Maine Power 24a	Comdisco 18c	Crane 15a
Albany International 15d	American President 23d	Atlantic Richfield 11b	Bell Atlantic 22b	Browning-Ferris 21c	Cendian 18c	Comerica 18c	Crawford 17a
Alberto-Culver 6d	American Stores 10c	Automatic Data 18c	BellSouth 22b	Bruno's 10c	Champion Intl. 19b	Commerce Clearing 20b	Crestar Financial 3c
Albertson's 10c	Amertech 22b	AutoZone 8	Bemis 7b	Brunswick 14d	Charming Shoppes 8	Commercial Metals 16b	Crown Central Petroleum
Alco Standard 5	Ames Dept. Stores 8	Avery Dennison 15a	Benefield 17a	Burlington Northern 23b	Chase Manhattan 3a	Commonwealth Ed. 24a	Crown Cork & Seal 7
Alcoa 16a	Ametek 9c	Avnet 21b	Bergens Brunswig 12a	Burlington Resources 11b	Chemical Banking 3a	Commonwealth Energy 24a	Crysal Brands 6a
Alexander & Alexander 17a	Amgen 12b	Avon Products 6d	Best Buy 6b		Chesapeake 19b	Comstat 22a	CSX 23b
Alexander & Baldwin 23d	Amoco 11b		Bethlehem Steel 16b	C	Chevron 11b	CompuComp Computer 18b	CULCO International 18
Allegheny 17a	Amoskeag 15d		Betz Laboratories 4	Caesars World 14c	Chrysler 2a	Compaq Computer 18b	Culbro 6e
Allegheny Ludlum 16b	AMP 9d		Beverly Enterprises 12c	Caldor 8	Chubb 17b	CompuCom Systems 18a	Cummins Engine 2b
Allegheny Power 24a	Amphenol 9d		Big B 12a	California Federal 17c	Cincinnati Bell 22b	ConAgra 10b	Curtice-Burns Food 10
Allergan 12b	AMR 23a		Bindley Western 12a	Campbell Soup 10b	Cincinnati Milacron 15b	Cone Mills 15d	Cyprus Minerals 16c
Allied-Signal 5	Analog Devices 9d		Black & Decker 17a	Capital Cities/ABC 20a	Cipso 24a	Conner Peripherals 18b	
Altel 22b	Anheuser-Busch 6c		Banc One 3b	Capital Holding 17b	Circle K 10c	Consec 17b	D
AM International 18b	Anthem Electronics 21b		Bancorp Hawaii 3d	Capstead Mortgage 13b	Circuit City Stores 6b	Consolidated Edison 24a	Dairy Mart 10c
Amex 16a	Apogee Enterprises 21a		Bank of Boston 3a	Caremark Intl. 12c	Circuit City 14c	Cons. Freightways 23d	Dana 2b

CORPORATE SCOREBOARD

PHABETICAL LIST OF COMPANIES

Number following each company name identifies the Scoreboard category under which it is listed

A Amgen 15b General 18b Hudson 8 Roads 10b Filter, Discover 17a 5c Computers 10c Computer 18b Lines 23a Roadside 15d Edison 24a 5c Shamrock 11b Equipment 18b 3c Walt 14b Road 10b General 8 Resources 24a R. R. 21d 3c Chemical 4 20b Seven-Up 6c Industries 11c Communications 22a 4 Power 24a Road 20b Road 14d 9b General 10c Industries 2b Enterprises 24b Kodak 14d Brothers 8 S. (A. G.) 17a 21a Natural Gas 24b Data 18c Electric 9a 4b Oil & Gas 11b 24b 17a Resources 24b 11b Distributors 8 Enterprises of America 8 Dollar Stores 8 Moe 17a 23c Express 23c Home Loan 17a Paper Board 7b Mogul 2b Dept. Stores 8 Cannon 15d Bancorp 3b International 5 Basement 8 ut 8 American Finl. 17a nk System 3b icago 3b ony 17b ta 18a pire State 3a elity 3a anial Mgmt. 17a strate Bancorp 3d America Bank 3b ion 3c Scientific 21b	B Fleet Financial Group 3a Fleetwood Ent. 14d Fleming 10a Florida Progress 24a Flowers Industries 10b Fluor 21a FMC 15c Food Lion 10c Foodarama 10c Ford Motor 2a Fort Howard 19b Foster Wheeler 21a Foundation Health 12c FPL Group 24a Franklin Resources 17a Freeport-McMoran 4 Fruit of the Loom 6a Fuller (H. B.) 4 Fuqua Industries 5 G Galen Health Care 12c Gannett 20b Gap 8 GATX 23d Gaylord Container 7b Gaylord Ent. 20a GenCorp 1 Genentech 12b General Dynamics 1 General Electric 5 General Host 5 General Instrument 9b General Mills 10b General Motors 2a General Public Uts. 24a General Signal 15c Genesco 8 Genuine Parts 21b Georgia Gulf 4 Georgia-Pacific 19a Getty Petroleum 21b Giant Food 10c Giddings & Lewis 15b Gillette 6d GM Hughes Electronics 9b Golden West 17c Goodrich (B. F.) 4 Goody's Family Clothing 8 Goodyear Tire 2c Grace (W. R.) 4 Grainger (W. W.) 21b Great A&P 10c Great Lakes Chemical 4 Great Western 17c Greyhound Lines 23d Grossman's 1 Grunman 1 GTE 22b Gtech Holdings 18c Guilford Mills 15d H Hall-Mark Electronics 21b Halliburton 11c Handleman 21c Hanna (M. A.) 4 Hannaford Brothers 10c Harcourt General 5 Harley-Davidson 14d Harnischfeger 15c Harris 9b Harsco 15a Hartmarx 6d Hasbro 14a Hawaiian Electric 24a Hayes Wheels Int. 2b HCA 12c Healthtrust 12c Hechinger 8 Heilig-Meyers 6b Heinz (H. J.) 10b Helene Curtis Industries 6d Hercules 4 Hershey Foods 10b Hewlett-Packard 18b Hillenbrand 15a Hillhaven 12c Hills Dept. Stores 8 Hilton Hotels 14c	I IBM 18b IBP 10b IES Industries 24a Illinois Central 23b Illinois Power 24a Illinois Tool Works 15a IMC Fertilizer 4 Imco 21c Ingersoll-Rand 15c Inland Steel 16b Integra Financial 3a Intel 9d Intelligent Electronics 18a Interface 15d Intergraph 18b Interlake 15c Intl. Multifoods 10b International Paper 19b Intl. Specialty Prods. 4 Interpublic Group 21d Interstate Bakeries 10b InterTan 6b ITT 5 J Jacobs Engineering 21a Jacobson Stores 8 James River 19b Jamesway 8 John Alden Financial 17b Johnson & Johnson 12d Johnson Controls 9c Jones Apparel Group 6a Jostens 15a Joy Technologies 15c K Kaman 21b Kansas City Southern 23b Kaufman & Broad 13b Kellogg 10b Kellwood 6a Kennametal 15b Kerr-McGee 11b KeyCorp 3a Kimball Int. 6b Kimberly-Clark 19b Kmart 8 Knight-Ridder 20b Kohl's 8 Kroger 10c L La-Z-Boy Chair 6b Laclede Gas 24b Ladd Furniture 6b Lafarge 13a Lands' End 8 LG&E Energy 24a Lifetime 12c Lilly (Eli) 12b Limited 8 Litton Industries 9b Liz Claiborne 6a Lockheed 1 Lofite 4 Longs Drug Stores 12a Longview Fibre 7b Lotus Development 18c	M Louisiana Land 11b Louisiana-Pacific 19a Lowe's 8 LSI Logic 9d Lubrizol 4 Lukens 16b Lyondell 4 N Mac Frugal's 8 Macy (R. H.) 8 Magma Copper 16c Magtek 9a Manor Care 12c Manpower 21c Manville 19b Marion Merrell Dow 12b Mark IV Industries 15a Marriott 14c Marsh & McLennan 17a Marshall Industries 21b Martin Marietta 1 Masco 6b Masco Industries 2b Mattel 14d Maxtor 18b Maxus Energy 11b May Department Stores 8 Maytag 6b McCormick 10b McDonald's 14a McDonnell Douglas 1 McGraw-Hill 20b MCI Communications 22a McKesson 12a MCN 24b Mead 19b Medco Containment 12a Media General 20b Medtronic 12d Mellon Bank 3a Melville 8 Mercantile Stores 8 Merck 12b Meredith 20b Meridian Bancorp 3a Merrill Lynch 17b Merry-Go-Round 8 Meyer (Fred) 8 Michaels Stores 8 MicroAge 18a Micron Technology 9d Microsoft 18c Mid Atlantic Medical 21c Midlantic 3a Miller (Herman) 18a Millipore 9c Mirage Resorts 14c Mitchell Energy 11b Mobil 11b Mohawk Industries 15d Molex 9d Monsanto 4 Montana Power 24a Morgan (J. P.) 3a Morgan Stanley 17a Morrison Knudsen 21a Morrison Restaurants 14a Morton International 4 Motorola 9b Multimedia 20a Murphy Oil 11b Musicland Stores 14d O Occidental Pet. 11b Office Depot 21b Ohio Edison 24a Oklahoma G&E 24a Olin 4 Olsten 21c Oneok 24b Oracle Systems 18c Orange & Rockland Uts. 24a Oregon Steel Mills 16b OrNda HealthCorp 12c Oryx Energy 11b Oshkosh Truck 2a Outboard Marine 14d Owens & Minor 12d Owens-Corning 13a Owens-Illinois 7a Oxford Industries 6a P Paccor 2a Pacific G&E 24a Pacific Telesis Group 22b PacificCare Health 12c PaineWebber Group 17a Pall 5 Pamida Holdings 8 Panhandle Eastern 24b Paramount Communs. 14b Parker Hannifin 15a Payless Cashways 8 Penn Traffic 10c Penney (J. C.) 8 Pennsylvania Power 24a Pennzoil 11b Pentair 17a Pep Boys 8 PepsiCo 6c Perkin-Elmer 9c Perry Drug Stores 12a Pet 10b Petrie Stores 8 Pfizer 12b Phelps Dodge 16c PHH 21c Philadelphia Electric 24a Philip Morris 6b Phillips Petroleum 11b Phillips-Van Heusen 6a PHM 13b Piedmont Natural Gas 24b Pier I Imports 6b Pilgrim's Pride 10b Pinkerton's 21c Pinnacle West 24a Pioneer Hi-Bred 10b Pittney Bowes 11a Piston 11a PNC Bank 3a Polaroid 14d Pope & Talbot 19a Portland General 24a Polatch 19b Potomac Electric 24a PPG Industries 13a Proair 4 Premark International 5 Premier Industrial 21b	Q Quaker Oats 10b Qualex 16b Quantum 18b Quantum Chemical 4 Qwestar 24b QVC Network 8 R Ralston Purina 10b Raychem 9a Raytheon 9b Read-Rite 9d Reebok International 6a Reliance Electric 9a Reliance Group 17b Republic New York 3a Revco D. S. 12a Rexnord 15c Reynolds & Reynolds 18a Reynolds Metals 16a Rhône-Poulenc Rorer 12b Richford Holdings 10a Rite Aid 12a Riverwood Int. 7b RJR Nabisco 6c Roadway Services 23d Rochester G&E 24a Rochester Telephone 22b Rockwell International 5 Rohm & Haas 4 Rohr 1 Rose's Stores 8 Ross Stores 8 RPM 13a Rubbermaid 15a Ruddick 10c Russell 6a Ryder System 23c Ryko-Sexton 10a S Safeco 17b Safeguard Scientifics 18c Safety-Kleen 21c Sallie Mae 17a Salomon 17a San Diego G&E 24a Santa Fe Pacific 23b Sara Lee 10b Scano 24a SCEcorp 24a Schering-Plough 11c Schlumberger 11c Schulman (A.) 4 Schwab (Charles) 17a SCI Systems 9b Scientific Atlanta 22a Scott Paper 19b Scripps (E. W.) 20b Seagate Technology 18b Sears, Roebuck 8 Seaway Food Town 10c Service Corp. Int. 21c Service Merchandise 8 ServiceMaster 21c Shaw Industries 15d Shawmut National 3a Sherwin-Williams 13a Shoney's 14a ShopKo Stores 8 Signet Banking 3c Silicon Graphics 18b Sizzler International 14a Smart & Final 10a Smith (A. 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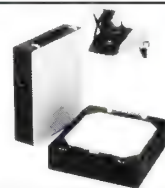
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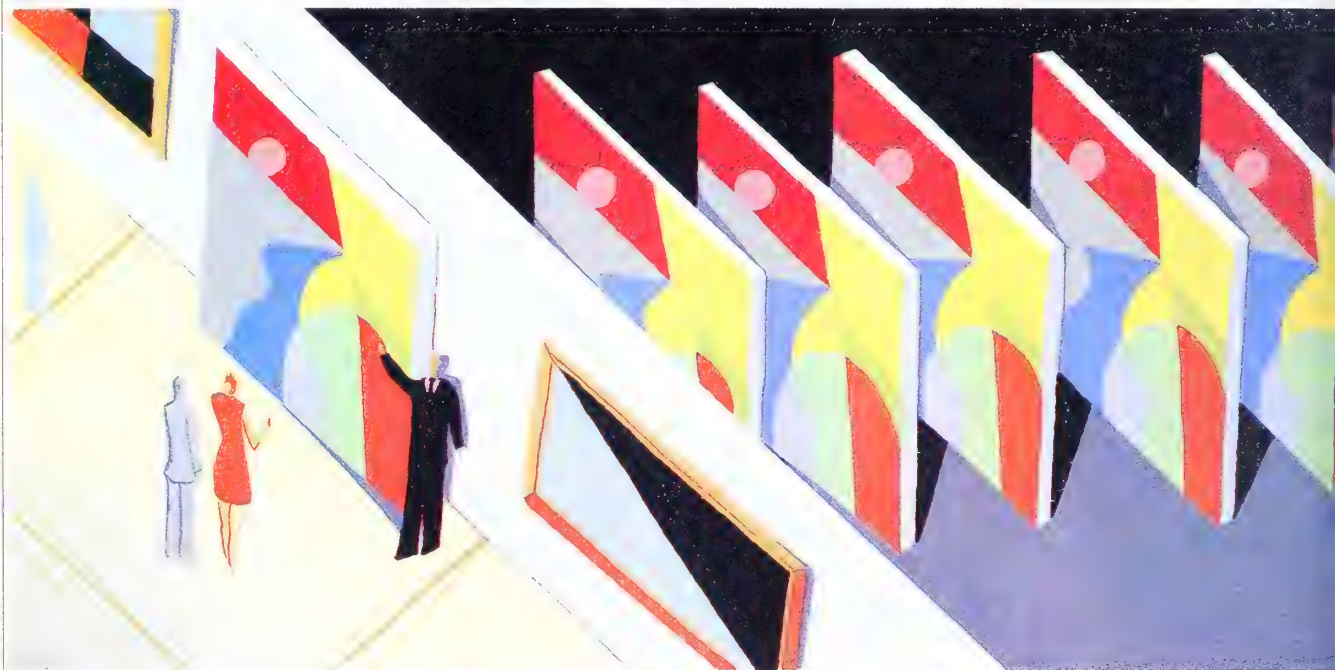
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BUYING ART ABROAD: THE DARK SIDE OF THE CANVAS



Three years ago, Ramon Cernuda, a Miami publisher of language texts, received some unannounced visitors. Federal agents broke down his door and seized his valuable collection of 200 Cuban paintings on the grounds that it violated U.S. trade embargo laws against Cuba. Cernuda had to sue the government to get his property back even though he had purchased all the paintings outside of Cuba. This "shows the danger of collecting art from politically sensitive countries," he says.

Art collecting holds other dangers as well. Innocent purchases made during a vacation abroad, for example, may cause the unsuspecting buyer to face fines or even imprisonment for violating a country's export laws. That expensive little statue you bought for the coffee table could turn out to be a fake—or worse, stolen. The laws

governing art purchases are enormously complex, varying from country to country, state to state, and object to object. Nevertheless, amateur collectors should try to familiarize themselves with some basics to avoid stepping on legal land mines.

Big problems can arise from buying art abroad. Most countries have "cultural patri-

**THAT PRICEY LITTLE
STATUE YOU BOUGHT
COULD BE A FAKE—
OR WORSE, STOLEN**

mony laws," which prohibit or restrict export of works with special historical, archaeological, or ethnological value, such as artifacts buried in ancient tombs. Turkey and Peru "claim title and ownership of

all antiquities originating in [those countries] regardless of importance," says Ralph Lerner, co-author of *Art Law: The Guide for Collectors, Investors, Dealers, & Artists* (PLI: Practicing Law Institute; \$85). On the other hand, Denmark and Britain will pay owners market value for an artwork if they ban its export. And once Chinese art is outside the country, "there's no indication that someone is going to chase it down," says James Lally, a New York City gallery owner who deals in Asian art.

"CRAZY GRINGOS." If a restricted item gets past local customs, it usually can enter the U.S., which has no obligation to enforce other countries' export laws. But there are exceptions. The U.S. Information Agency, in cooperation with U.S. Customs, bars importation of certain stolen artworks for which records exist. And in response to

cries that Latin American archaeological sites were being looted, the U.S. agreed to ban imports of pre-Columbian art. Although this has cut down the pre-Columbian traffic in the U.S., says Conn Lowenthal, executive director of the International Foundation for Art Research (IFAR), "dealers complain that the trade has gone to Europe, it may not have stopped the plunder."

Pillaging of ancient sites is a worldwide problem. Archaeologists claim that collectors encourage plunder when they pay big money for artifacts. Collectors answer that they protect art that might otherwise be destroyed. "A farmer digging a well comes across an ancient tomb," says gallery owner André Emmerich. "he goes to the authorities; they'll probably bar him from making his well. So he's likely to destroy what's there first. But if he knows crazy gri-

in the capital pay money it, it will get sold, preserved, and endowed with monetary value."

The pillage problem is exacerbated by the fact that countries with the most artists often have the least resources to protect them and the greatest need for the cash a sale will bring. In addition, "enforcement is very difficult and violation com-

pletely easy," says art attorney Susan Biederman. The U.S. has no patrimony laws per se, but it is illegal to remove archaeological artifacts from federal lands. In March, four people in Utah were indicted for unearthing and selling the remains of Native American infants, some of whom lived about 60 years ago and were wrapped in a hide blanket and lying on a wooden cradle board.

If you do buy art abroad, make sure you know that country's laws on cultural property and art exports. Contact the nation's department of cultural affairs or the American embassy to find out what documentation you might need. You may want to consult an art lawyer or make the purchase through a reputable dealer in the U.S. so you'll have a representative at home who's accountable. Make sure the U.S. has special import restrictions, as it does on Cuban and Iranian art, says Marjorie Stone, general counsel for Sotheby's auction house. "If you bought an Iranian rug in London, you wouldn't bring it home unless you could prove it left Iran before the U.S. embargo went into effect."

PROVENANCE PERILS. If stolen works or antiquities subject to cultural-patrimony laws show up in U.S. galleries and exhibitions, foreign governments and individuals can sue to get them back. So if you don't have clear title to a significant work, you could get

tied up in costly litigation and eventually lose the art to its rightful owner. Worse, "if you bought stolen art knowingly, you could go to jail," says Lerner. Statutes of limitation vary widely, sometimes starting only after the theft victim has sued and the current owner has refused to give up the art. This may be decades after it disappeared.

plete background on the person's works, their history of ownership, and the exhibitions they have appeared in.

It's far more likely that you'll buy a fake than a stolen treasure, says art consultant Catherine Drillis. So be wary "if someone offers you a great bargain. It is too good to be true," Drillis says she examined a hoard of paintings by

Erté "limited edition" prints were sold nationwide through galleries, over the phone, and via the mails throughout the 1980s. Prices varied from a few hundred dollars to tens of thousands. A sting operation led to criminal charges against a family named Amiel that allegedly supplied the fakes from an Island Park (N.Y.) warehouse—along with false certificates of authenticity to validate the bogus items.

BONING UP. Jack Ellis, the postal inspector who helped break the case, warns casual collectors not to buy anything sight unseen. If you do, "you should have it sent to you on approval so you can check it out with some expert whom you trust." If you discover that you've bought a fake, complain to the Federal Trade Commission. "Several laws allow them to go in when something is counterfeit," says Ellis. Criminal mail- and wire-fraud statutes can also be applied to any scheme in which someone is defrauded by misrepresentations transmitted by phone, fax, or mail, he says.

Auction houses and museums can give you a free opinion on an item's authenticity, and IFAR will do a thorough report, including a consultation with an appropriate expert, for a minimum of \$750. Another way to protect yourself is to read up on the area that interests you. "Find a dealer you

enjoy talking to and pick his or her brain," says Lally. "Go to auction rooms, where you can handle the pieces, and ask every silly question that comes into your head."

In the end, there are no guarantees. "My advice is the same as with the stock market," says Biederman. If you buy a work of art, "make sure you can afford to lose the money." At the least, make sure that you like it—and that it fits the decor. *Pam Black*

IF YOU GOTTA HAVE ART...

...FIND OUT IF IT'S REAL...

- ▶ Research the type of art you wish to invest in. Keep it narrow.
- ▶ Read books, consult knowledgeable art dealers.
- ▶ Visit auction houses to inspect samples of the kind of art you're interested in.
- ▶ If you don't have time to do the research, hire an art consultant or lawyer to do it for you.
- ▶ Get an evaluation of an art object from a museum or auction house.
- ▶ Buy only from reputable dealers, who have a track record and have been around for a while.
- ▶ Get a certificate of authenticity and a bill.

...OR IF IT'S STOLEN...

- ▶ Ask where the art object comes from, who has owned it in the past.
- ▶ Request proof, including past bills of sale.
- ▶ For famous artists, check your local library for a *catalogue raisonné*, the definitive source on a person's complete works, history of ownership, and exhibitions they have appeared in.
- ▶ Check with the International Foundation for Art Research, Interpol, the FBI, and any other registry that keeps tabs on stolen art.
- ▶ Don't spend thousands of dollars without consulting an art lawyer.

...OR ILLEGAL TO HAVE

- ▶ If you're in a foreign country, find out what the export laws are for artworks. This may not be easy, but the American embassy should be able to help.
- ▶ Find out a given country's restriction on cultural patrimony.
- ▶ Obtain the appropriate documentation to export an art object from the country.
- ▶ Find out if the U.S. has any special arrangements with the country enforcing its export laws here.
- ▶ In the U.S., ask if Native American artifacts come from public lands and check with the Bureau of Land Management before you buy.

DATA BUSINESS WEEK

To protect yourself, ask lots of questions about the art's provenance, or ownership history, and request documentation of its sale and background. If the seller is reluctant to furnish such information, that could be a warning. Check with local police, Interpol, the FBI, and IFAR, which all keep records of stolen art. For a famous artist, visit your local library and consult the *catalogue raisonné*, which gives a com-

big-name Impressionists offered to a client for several million dollars. She declared it a scam. "It was enough to fill a small museum, and they weren't asking a huge sum," says Drillis. "Plus they wanted to do it quietly. Why would anyone do that? They would want to get the most they could by going through an auction or dealer."

Fakes go for all prices. Thousands of counterfeit Dali, Picasso, Chagall, Miró, and

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Traveling with a laptop in Europe can be frustrating, even when it comes to something as simple as plugging it in. And there's no way to avoid that—unless you bring an extra suitcase for batteries. Most luggage has adjustable current settings that get you from the 110 volts used in the U.S. to Europe's 220. But those flat prongs on your U.S. power cord won't fit. Travel kits have adapters for most European outlets. If you're missing the right one,

visit a hardware store.

Also, consider your lodging very carefully. "The biggest problem we have is the connection at the hotel," says Colin Adams, European technical manager for Associated Press. Hotels that have direct-dial phones with detachable wall jacks are the best. "Hotel switchboards are connection killers," he warns. Hotels with digital PBXs are even worse because they won't recognize your machine's analog dial tones. One solution: Disable the automatic-dial feature of your telecommunications program, replace your e-mail number with a comma (read as a pause), then dial the number manually.

LOCAL PRONGS. Even if your hotel phone has a detachable plug jack, it won't be the familiar modular RJ-11 style with the plastic clip. But European electrical stores sell



adapters that have the local prong design on the wall side and a modular opening facing you. You can also bring along a modular cord with bare wires at one end that you can connect to a local phone plug.

Veterans of Europe's phone systems also carry a modular cord with alligator clips at one end. If a phone is wired to a wall box, you can screw off the plate and hook the clips to the appropriate wires. If your phone has a removable mouthpiece, you can attach the clips to the springy

metal contacts inside. If such solution sounds beyond your technical abilities, consider acoustic couplers, which are attached to a modular cord, which fits over a phone earpiece and mouthpiece. With couplers, dial a number manually, get a carrier signal from the computer you're calling, put the couplers on, and transmit.

PHONE HOME. Once you get a connection, it could cost a bundle if you use the switchboard. Try a call-home service of a U.S. company, such as AT&T's USADirect, that lets you direct-dial your home base via an 800-style number.

One sure way to avoid many obstacles is a satellite phone. That's what AP reporters used in their coverage of the gulf war and Somalia. "They're very expensive," says Adams. "But they work." *Patrick O'Connell*

Asset-allocation mutual funds became popular after the 1987 crash as a way to avoid wide market swings by simultaneously investing in stocks, bonds, and cash. But they faded as stocks recovered and equity funds took off. With the market at worrisome highs this year, investors are again flocking to the funds.

It's best to look closely before jumping in. Many funds carry loads, so you'll be charged a percentage of your investment. Despite their common philosophy of shifting assets among sectors as market conditions change, investment strategies can be dramatically different.

Some funds stray from a middle-of-the-road approach. Quest for Value Opportunity, sold by Quest for Value Advisors in New York, achieved the best

Smart Money

THE RETURN OF THE FUND FOR ALL SEASONS

three-year return through Mar. 31 by buying mostly niche stocks with low price-earnings multiples. That paid off nicely in 1991, with a 51% gain. But with 5% of assets in bonds this year, it missed the bond rally. Its return through Apr. 13 was 1.62%.

Dreyfus' Capital Value

Fund, heavily oriented toward bear markets, bet wrongly on a market drop last year. Its manager, Comstock Partners, invested in gold stocks, shorted big consumer stocks, and put nearly 40% of the fund in low-interest T-bills. The fund dropped a woeful 10.36%. But this year, it's up nearly 10%. Says manager Stan Salvigsen: "Investors [in my fund] should feel the same way I do about the market."

Merrill Lynch's Global Allocation fund and Fidelity's Asset Manager try to balance stock and bond holdings 50/50. They add an

additional measure of safety by investing in foreign stocks and bonds. Such conservatism has helped bond funds produce above-average returns. However, neither is positioned for shoot-the-lights-out years.

AUTOPILOT. The simplest fund is Vanguard's Asset Allocation fund, which practically runs on autopilot. Between 40% to 60% of its assets are in stocks tied to the Standard & Poor's 500-stock index and the rest is in Treasury bonds. Its three-year average annual return was 14.28%. One advantage of this hands-off style: The annual expense ratio was 0.5% of assets vs. 1.62% for the group average.

All asset-allocation funds try to minimize risk, but each has a different idea of how to achieve that goal. Investors should make sure they're not getting into a fund that will gamble with strategies too risky for their taste. *Geoffrey Smith*

A LOOK AT THE TOP FUNDS

	Three-year avg. annual return thru 3/31/93*	Year to date thru 4/13/93*
QUEST FOR VALUE OPPORTUNITY	20.44%	1.62%
MERRILL LYNCH GLOBAL ALLOCA.	17.21	9.19
FIDELITY ASSET MANAGER**	16.53	6.38
PHOENIX TOTAL RETURN	16.33	2.69
CONNECTICUT MUTUAL TOTAL RETURN	14.64	6.08
GROUP AVERAGE (55 FUNDS)	11.5	4.37
S&P 500	14.12	0.98

*Does not include sales load.

**No load.

DATA: MORNINGSTAR INC.

With the ever-increasing cost of health insurance, families are switching an option that might have seemed unthinkable several years ago: catastrophic coverage. These increasingly popular plans trade off higher deductibles—from \$2,500 to \$10,000 and above—for premiums that can be dramatically less than what you would pay for all-inclusive insurance covering every doctor visit. The insured picks up all medical costs up to the deductible amount.

The advantages are not in substantial premium savings. "It's a simplifier," says Bert Hunter, president of the National Insurance Consumer Organization, an Alexandria (Va.) watchdog group. You rid yourself of paperwork for routine checkups, net out some personal injuries by the insurance company, and fear, ever-present for those insured to a hilt, of willy-nilly cancellation.

The gamble, of course, is that by healthy living and good luck you'll come out dollars ahead after subtracting your medical expenses from what you've paid in premiums. For example, say over one year you pay \$1,400 for doctor visits but you save \$2,000 in premiums. You're \$600 ahead, that's even before you factor in the deductibles you could have swallowed under your old plan.

TURN TO BASICS. If you take one step further and set aside the premium savings in an account you can tap for medical bills, you won't get caught short, and you'll earn some on the money. On the upside, you are risking that you and your spouse could run up \$2,500 or more in medical expenses on a \$500-per-person deductible plan. That would leave you \$2,000 down before the insur-

Insurance

BETTING ON A PRETTY CLEAN BILL OF HEALTH

ance company puts out a cent.

In a way, this form of limited self-insurance for individuals is a return to basics. You're protecting your nest egg. "Insurance is a risk-sharing proposition, and what you are insuring for is what can cause you the greatest financial loss," says Ronald Mimick, product manager at Mu-

per-person deductible plan. One result of the higher deductible, he says, is that you don't run off to the doctor every time you have a sniffle. You go only when you feel you really need the care.

Picking the right deductible is the toughest part of buying catastrophic insurance. The \$2,500 level is popular,

You can also reduce premiums by agreeing to pay half your medical costs for a certain level above the deductible. One plan offered by Principal Mutual Life Insurance has a beginning deductible of \$2,500, with the insured assuming 50% of the liability for the second \$2,500. This plan saves 65% over the low-deductible policy, vs. a 40% savings with the straight \$2,500 plan.

CAUTIONS. Catastrophic policies use the same basic rating criteria—age, health, area of the country—and cover the same major-medical services

as do comparable low-deductible plans. The catastrophic plans are generally easier to understand, with fewer loopholes to worry about. But there are some understandable cautions: "Make sure the things you want are covered," such as transplants, warns Rodney Karsten, director of underwriting for Principal. Watch out for small-print zingers, such as one specifying that the deductible is per illness. And look for at least \$1 million in coverage. Chances are, only the worst calamity would buck \$1 million. But it's just such major mis-

fortunes that insurance is for. Last, don't expect always to beat the odds. If you run up a huge medical tab one year, don't automatically retreat to a fully loaded low-deductible plan. The savings come over years to smart risk-takers. *E. S. Ely*

TWO PLANS: CONVENTIONAL VS. CATASTROPHIC

A couple in their mid-40s with a young child buys a typical low-deductible health insurance policy. They have medical bills of \$1,500 the first year, \$6,500 the second, and \$700 the third. Here's what they would pay out of pocket over three years:

Premiums:	\$18,000	(\$6,000 a year)
Deductibles:	2,700	(\$500 a year per person; \$1,000 family cap)
Co-payments:	1,200	(20%)
TOTAL	\$21,900	



If the same family chooses a typical catastrophic plan, they would pay:

Premiums:	\$9,000	(\$3,000 a year)
Deductibles:	7,200	(\$2,500 a year per person; \$5,000 family cap)
Co-payments:	0	(None)
TOTAL	\$16,200	



tual of Omaha Insurance, one of a handful of large insurers offering individual catastrophic plans. "You don't buy it for the doctor visit."

Insurers report brisk demand from healthy middle-aged couples with relatively high incomes whose children have left home. But catastrophic plans also make sense for younger families. Charles Corbiere, a Hackensack (N.J.) restaurateur, figures he has saved some \$12,000 over four years by going to a \$5,000 deductible, even after averaging \$1,500 to \$2,000 a year in medical expenses for himself, his wife, and his son. Corbiere spends \$1,420 a year in premiums, against the \$4,200 he would be paying for a \$500-

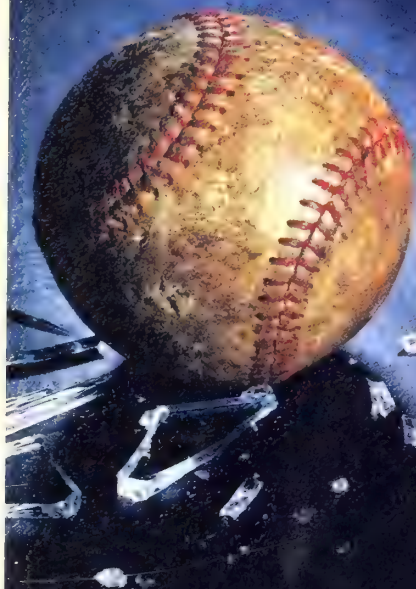
but you may want to go much higher if you are relatively liquid and in good health. As a rule, you can expect to halve your premiums by going to \$2,500 from \$250 or \$500. Choose \$5,000 and you could pay just 35% of full rate; \$10,000 will get you below 30%.

Worth Noting

■ **PAYING PLANNERS.** Before anteing up for advice, find out *How Financial Planners are Paid*. A new brochure from the International Association for Financial Planning outlines payment options and answers basic questions about fees. Call 800 945-IAFP for this item, a list of planners in your

area, and more information on choosing an adviser.

■ **CREDIT CHECK.** Credit agency TRW has just made it easier for you to interpret your credit report with a new "plain English" format. You can obtain a free copy once a year, as well as a new dispute form in case you spot any inaccuracies, by calling TRW consumer assistance at 800 682-7654.



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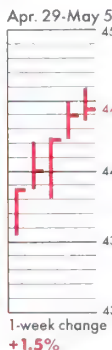
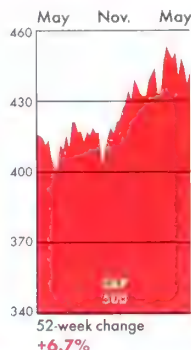
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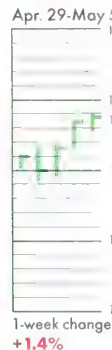
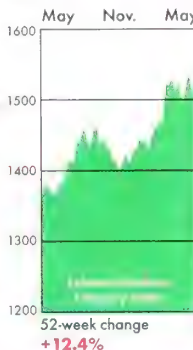
MENTARY

small. The Dow Jones indus- moved up 1% for the week, the broader S&P 500, 1.5%. The real action in the equity markets was far away from the chips. Both the S&P MidCap and the Russell 2000 indexes shot up 3%, which could be a sign of revived investor interest in small companies. The stock market came strength from falling interest rates. The 30-year U.S. Treasury bond rallied and the increasingly bearish bond market sentiment.

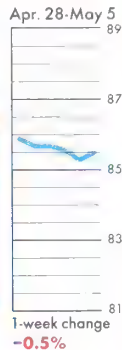
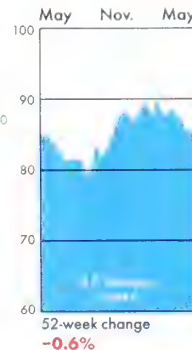
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS	Latest	% change Week	% change 52-week
DOW JONES INDUSTRIALS	3449.1	1.0	2.4
STANDARD & POOR'S 500 COMPANIES (S&P MidCap Index)	164.1	3.3	13.0
STANDARD & POOR'S 500 COMPANIES (Russell 2000)	227.7	3.3	14.4
STANDARD & POOR'S 500 COMPANIES (Russell 3000)	254.7	1.9	8.4

FOREIGN STOCKS	Latest	% change (local currency) Week	% change (local currency) 52-week
DOW JONES INDUSTRIALS (FINANCIAL TIMES 100)	2796.5	0.0	3.6
DOW JONES INDUSTRIALS (NIKKEI INDEX)	20,919.2	2.3	17.0
DOW JONES INDUSTRIALS (TSE COMPOSITE)	3788.9	2.1	12.7

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	2.95%	2.98%	3.69%
30-YEAR TREASURY BOND YIELD	6.78%	6.92%	7.97%
S&P 500 DIVIDEND YIELD	2.81%	2.85%	2.96%
S&P 500 PRICE/EARNINGS RATIO	22.6	22.0	25.5

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	438.9	438.1	Positive
Stocks above 26-week moving average	62.2%	58.1%	Neutral
Speculative sentiment: Put/call ratio	0.38	0.46	Neutral
Insider sentiment: Vickers sell/buy ratio	2.93	3.06	Negative

INDUSTRY GROUPS

4-WEEK LEADERS

	% change 4-week	% change 52-week
DRUGS	12.4	-16.4
TELECOM	9.5	18.4
OLD MINING	9.5	38.4
OTOMOBILES	8.9	24.3
L AND GAS DRILLING	8.7	45.2

4-WEEK LAGGARDS

	% change 4-week	% change 52-week
RETAILS	-8.4	-11.9
GENERAL MERCHANDISE	-7.3	6.9
BUCKING	-7.1	-20.2
SPECIALTY APPAREL RETAILERS	-6.9	-5.2
FT DRINKS	-5.9	-2.8

Strongest stock in group

	% change 4-week	% change 52-week	Price
PFIZER	17.4	-2.3	69 1/4
MATTEL	12.1	6.0	24 3/8
ECHO BAY MINES	17.6	27.7	7 1/2
GENERAL MOTORS	10.9	2.4	41 7/8
HELMERICH & PAYNE	8.9	35.3	32 1/8

Weakest stock in group

	% change 4-week	% change 52-week	Price
CYPRUS MINERALS	-21.7	-1.0	24 3/8
DAYTON HUDSON	-11.1	17.4	71
ROADWAY SERVICES	-10.7	-22.1	58 1/4
LIMITED	-10.8	-5.5	21 5/8
PEPSICO	-8.6	2.1	37

MUTUAL FUNDS

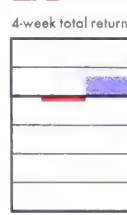
LEADERS

	%
4-week total return	
WILMINGTON STRATEGIC INVESTMENTS	19.7
EQUITY STRATEGIES	18.3
SAA INVESTMENT GOLD	13.8
52-week total return	
ETLIFE-STATE STREET GLOBAL ENERGY	59.0
FINANCIAL STRATEGIC GOLD	47.6
DELITY SELECT AMERICAN GOLD	46.9

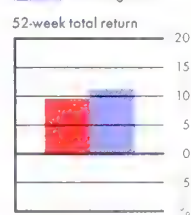
LAGGARDS

	%
4-week total return	
STEADMAN OCEANOGRAPHIC TECHNOLOGY	-8.1
STEADMAN INVESTMENT	-7.6
SHERMAN DEAN	-7.5
52-week total return	
PROGRESSIVE AGGRESSIVE GROWTH	-34.5
FINANCIAL STRATEGIC ENVIRONMENTAL	-25.5
FINANCIAL STRATEGIC HEALTH SCIENCES	-19.7

S&P 500



Average fund



RELATIVE PORTFOLIOS

Relative amounts
represent the present
value of \$10,000
invested one year ago
each portfolio
percentages indicate
yearly total returns



Data on this page are as of market close Wednesday, May 5, 1993, unless otherwise indicated. Industry groups include S&P 500 companies only; performance and share prices are as of market close.

May 4. Mutual fund returns are as of Apr. 30. Relative portfolios are valued as of May 4. A more detailed explanation of this page is available on request.

A NEW CHINA POLICY FOR A NEW CHINA

The U.S. needs a China Policy for the 1990s. For too long, Washington has perceived China narrowly, as a card to be played against the Soviet Union during the cold war, a huge foreign market, or, since the Tiananmen Square massacre, a violator of human rights. As Congress debates whether to curb China's Most Favored Nation trade status unless Beijing improves those rights, Washington continues to define U.S.-China relations in constricted terms.

The dramatic changes sweeping through China today augur well for a broader, more sophisticated American foreign policy for the world's most populous nation. China is building a new kind of capitalism that is boosting economic growth at a double-digit clip, propelling the country into Big Power status.

China-style capitalism is revolutionizing the economy, but change will come slower to politics. The Communist Party shows no signs of giving up power. At the same time, local party cadres in the provinces are busily transforming themselves into prosperous business executives, running state-owned but market-oriented companies. Alongside them, a private business class is emerging. If political change is to come to China, they would be the vanguard.

The rise of Chinese capitalism offers a chance for the U.S. to broaden its agenda with China and build a partnership that deals not only with rights but also with trade, investment, regional security, and arms exports. A policy that combines political, military, and economic relations is now possible, and the Clinton Administration should seize the day.

For their part, the Chinese want access to U.S. markets for their exports and for American technology. China is also

desperate to get into the General Agreement on Tariffs and Trade. Mexico was able to put 1,000% tariffs on Chinese ports with impunity recently because China is outside GATT circle.

Instead of engaging in perennial debates over MFN, American foreign policy toward China should be redrawn along the following lines:

- Guide China into the international arena, especially GATT. In exchange, the U.S. should pressure Beijing to allow Red Cross access to political prisoners, press for release of specific dissidents, and end exports of prison-made products.

- Make contact with China's new political leaders, both in Beijing and in the provinces. Once China's old men in Beijing pass on, the U.S. would be well placed with the new generation.

- Muscle China to balance its \$18 billion trade deficit with the U.S. Beijing should comply with existing agreements, expand access to its markets and sharply boost imports of American goods and services. Washington should threaten to impose stiff tariffs under Section 301 of U.S. trade law if China doesn't act.

- Resume military contacts with the People's Liberation Army, broken off after Tiananmen Square, in exchange for restraint on the export of Chinese missiles to the Middle East and other hot spots.

Engaging China in a series of relationships has a greater chance of expanding American economic interests and maintaining a crucial measure of political influence than isolating the awakening giant. This is one opportunity Washington should not waste.

WASHINGTON FIDDLES, THE ECONOMY DRIFTS

The U.S. economy is wobbly again. It shot out of 1992 only to lose momentum and falter in the first four months of 1993. The latest reading of the leading indicators shows a drop of 1% in March, the worst decline since November, 1990, when the country was in recession. The conventional explanation among economists is the Blizzard of '93. But there is no way for bad weather to explain what happened in April, when the National Association of Purchasing Management index dropped sharply to 49.7% from 53.4%, and corporate layoffs rose 3.6%. Despite stronger auto sales, the second quarter may not turn out to be much better than the first, which grew at a tepid 1.8% rate.

We believe Washington has a lot to do with this big chill. There is uncertainty in the economy because there is uncertainty on the Potomac. Business and consumers are confused by the trial balloons, leaks, and policy zigzags out of Washington almost daily. Most disturbing is the static over new taxes. The deficit-reduction package, once a sure thing, now looks shaky. The Republicans, fresh from their evisceration of the President's stimulus plan, are making noises

about refusing to agree to *any* new taxes to cut the deficit.

It's no wonder that people and corporations are confused and are dialing back their spending and investments. Budgetary gridlock threatens just when the country desperately needs a sense of direction. If this continues, any kind of economic or political shock could send the economy into quadruple-digit unemployment.

The uncertainty in Washington must end quickly if the country is to regain its footing. Above all, the sparring between Democrats and Republicans over taxes and spending in the deficit program should be settled in weeks, not months. Bill Clinton should make it clear that he is willing to accept congressional changes in his plan that shift a significant portion of the burden from new tax hikes to new spending cuts. And if cuts are made, Republicans must agree to higher taxes—if not corporate taxes, then certainly consumption, such as energy.

The Administration must also face reality on the cost of health-care reform. A bare-bones plan that costs about \$100 billion and is financed mostly through sin taxes can fly. Congress and the voting public aren't going to accept much more. Clarity and pragmatism are the order of the day.

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HOT GROWTH COMPANIES

THE 100 BEST SMALL CORPORATIONS

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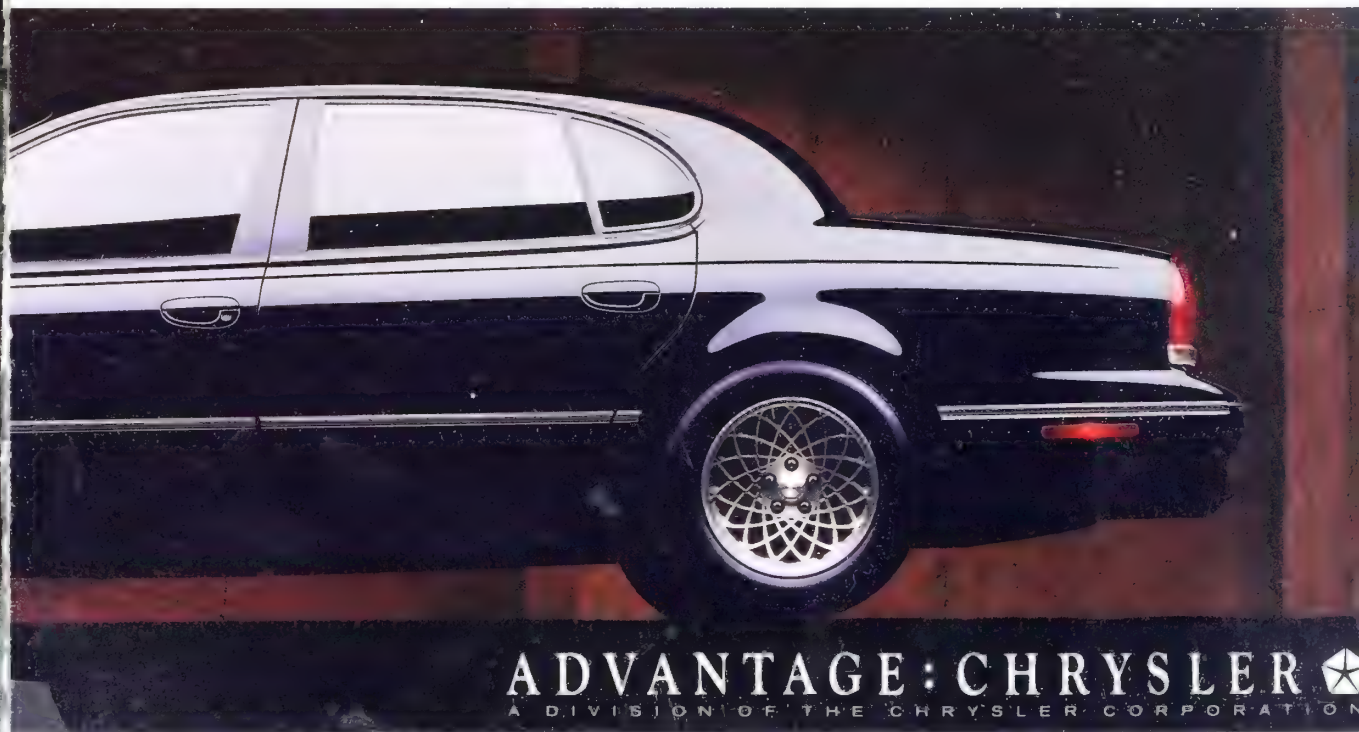
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Cover Story

64 HOT GROWTH COMPANIES

In a year in which much of Corporate America was only muddling through, many small concerns were performing very well indeed. Sales at 100 feisty operators soared at an average annual rate of 55.4%. Worthy of notice: Lone Star Steakhouse, Black Entertainment Television, First Team Sports, On Assignment, Satellite Technology Management, and IMR's

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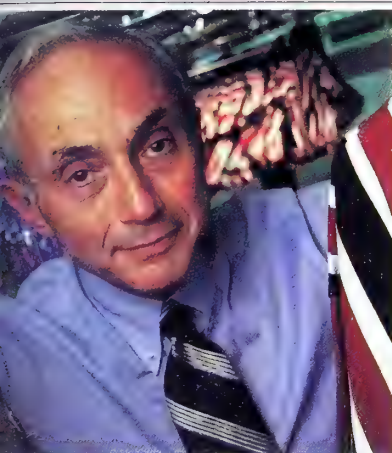
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Through aggressive marketing,
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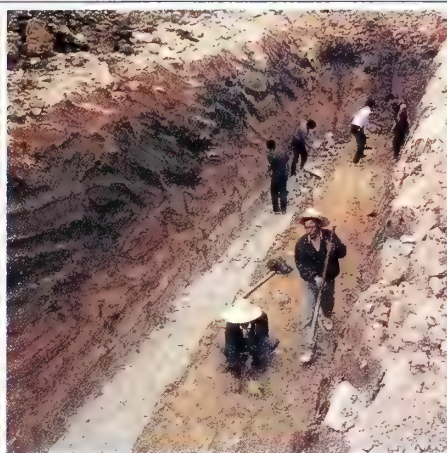
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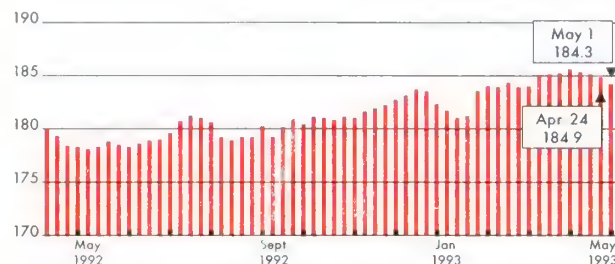
BusinessWeek Index

PRODUCTION

Change from last week: -0.3%

Change from last year: 3.3%

1967=100 (four-week moving average)



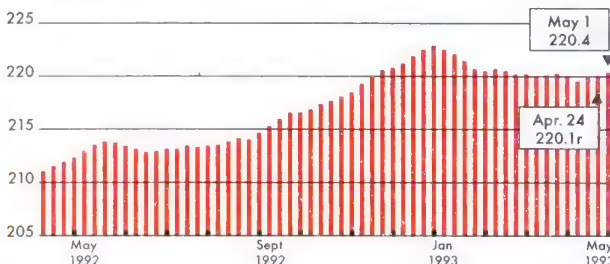
The **production index** decreased during the week ended May 1. On a seasonally adjusted basis, output of autos, trucks, electric power, coal, and paper declined. Lumber and paperboard production, as well as rail-freight traffic, increased. Steel and crude-oil refining output were flat. Before calculation of the four-week moving average, the index dropped to 184.1 from 184.4. The index for April fell to 185 from 185.1 in March.

BW production index copyright 1993 by McGraw-Hill Inc

LEADING

Change from last week: 0.1%

Change from last year: 3.8%



The **leading index** increased only slightly during the week ended May 1. Improved growth rates for M2 and real estate loans offset the negative signs of lower stock prices, higher bond yields, a gain in the number of business failures, and falling materials prices. Before calculation of the four-week moving average, the index rose to 220.4 from 219.5. For the month of April, the index rose to 220.1 from 220.1 in March.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (5/8) thous. of net tons	1,805	1,824#	-0.2
AUTOS (5/8) units	133,115	138,748r#	-1.6
TRUCKS (5/8) units	107,093	102,661r#	22.7
ELECTRIC POWER (5/8) millions of kilowatt-hours	52,436	51,728#	1.2
CRUDE-OIL REFINING (5/8) thous. of bbl./day	13,685	13,647#	4.0
COAL (5/1) thous. of net tons	18,291#	18,732	-0.1
PAPERBOARD (5/1) thous. of tons	800.5#	785.6r	-0.8
PAPER (5/1) thous. of tons	785.0#	788.0r	-0.4
LUMBER (5/1) millions of ft.	466.9#	463.6	-7.1
RAIL FREIGHT (5/1) billions of ton-miles	21.5#	21.3	4.9

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWPAA, SPPA, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (5/12)	112	110	131
GERMAN MARK (5/12)	1.61	1.58	1.62
BRITISH POUND (5/12)	1.54	1.57	1.82
FRENCH FRANC (5/12)	5.43	5.32	5.44
CANADIAN DOLLAR (5/12)	1.27	1.28	1.21
SWISS FRANC (5/12)	1.46	1.42	1.49
MEXICAN PESO (5/12) ¹	3.113	3.095	3.087

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (5/12) \$/troy oz.	356.200	354.250	6.3
STEEL SCRAP (5/11) #1 heavy, \$/ton	106.50	106.50	15.8
FOODSTUFFS (5/11) index, 1967=100	205.4	205.0	1.5
COPPER (5/8) ¢/lb	89.0	89.3	-14.5
ALUMINUM (5/8) ¢/lb	52.3	52.0	-13.0
WHEAT (5/8) #2 hard, \$/bu.	3.32	3.37	-17.4
COTTON (5/8) strict low middling 1-1/16 in., ¢/lb	57.30	56.03	2.8

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (5/7) S&P 500	443.32	437.73	-
CORPORATE BOND YIELD, Aaa (5/7)	7.37%	7.40%	-1.6
INDUSTRIAL MATERIALS PRICES (5/7)	96.6	97.2	-
BUSINESS FAILURES (4/30)	431	403r	-
REAL ESTATE LOANS (4/28) billions	\$395.9	\$394.4r	-
MONEY SUPPLY, M2 (4/26) billions	\$3,436.2	\$3,434.8r	-
INITIAL CLAIMS, UNEMPLOYMENT (4/24) thous.	346	356	-1

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & B. street (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
BUSINESS WEEK PRODUCTION INDEX (Apr.)	185.0	185.1	-
BUSINESS WEEK LEADING INDEX (Apr.)	220.3	220.1r	-
EMPLOYMENT, CIVILIAN (Apr.) millions	118.4	118.6	-
UNEMPLOYMENT RATE, CIVILIAN (Apr.)	7.0%	7.0%	-

Sources: BW, CIBCR, BLS

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (4/26)	\$1,040.0	\$1,038.6r	1
BANKS' BUSINESS LOANS (4/28)	275.8	275.2r	-
FREE RESERVES (4/28)	1,326	817r	2
NONFINANCIAL COMMERCIAL PAPER (4/28)	156.9	157.6	-

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (5/11)	2.98%	2.94%	3.8
PRIME (5/12)	6.00	6.00	6.5
COMMERCIAL PAPER 3-MONTH (5/11)	3.09	3.12	3.8
CERTIFICATES OF DEPOSIT 3-MONTH (5/11)	3.06	3.08	3.7
EURODOLLAR 3-MONTH (5/8)	3.06	3.06	3.8

Sources: Federal Reserve Board, First Boston

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful



“When I wanted to expand into foreign markets, I needed a bank that spoke the language.”

*Todd Figi, President
Figi Graphics*

“I wanted my own business so badly I started out selling candles from a van.

Over the next several years, my company increased distribution, diversified into wall art and expanded throughout the U.S. But we knew that our real growth would come from the international market. So we needed a bank that could not only take care of us here at home, but overseas as well.

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They provided us with the letters of credit we needed to begin importing from around the world. And international banking services

that let my company manufacture products in Indonesia and export to anywhere in Europe. But best of all, BofA's international presence lets me handle these transactions in all 42

countries where we do business with a phone call to my bankers Bob and

Gordon right here in San Diego.

The way I see it, I may have opened my company, but it was Bank of America that opened my company to the world.”

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WALL ST



At McGraw-Hill, being first
is almost second nature.

It's taken politicians ten years to confront
the AIDS epidemic.



It took musicians about 65 minutes.



The music industry has been quick to respond to the AIDS epidemic. The KISS band has been the first to release a CD dedicated to the fight against AIDS. The CD, titled "KISS AIDS", features the band's hit songs "Rock and Roll All Stars" and "I Was Made for Lovin' You" re-recorded with AIDS victims and their families. The CD is available for purchase at a special price of \$19.99.

KISS
AIDS



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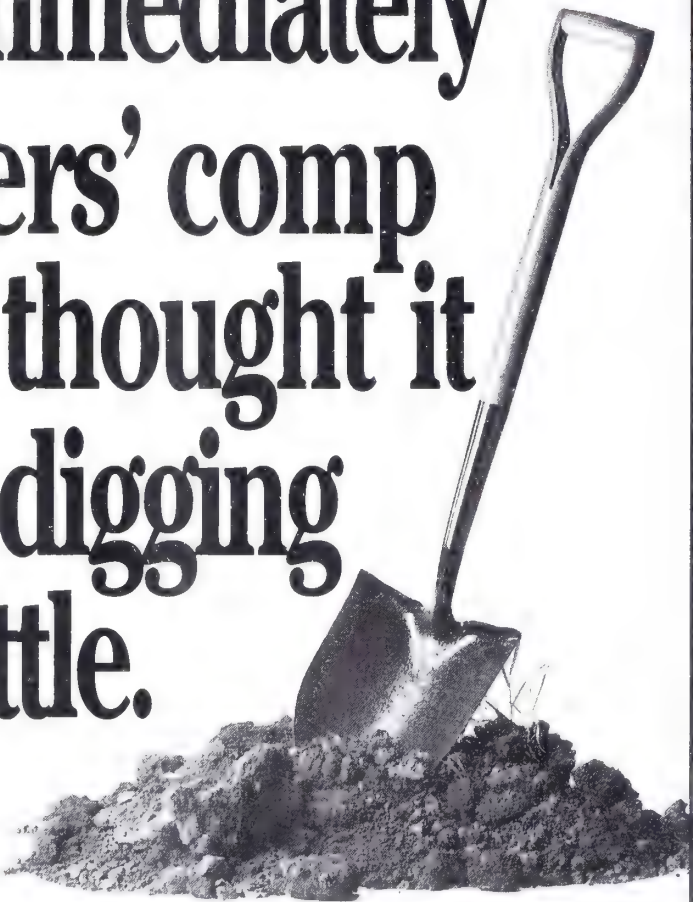
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THE FUND'S TOTAL RETURN AS OF MARCH 31, 1993	CUMULATIVE TOTAL RETURNS	AVERAGE ANNUAL TOTAL RETURNS
ONE YEAR 3/31/92 - 3/31/93	10.50%	10.50%
FIVE YEAR 3/31/88 - 3/31/93	118.20%	16.89%
LIFE OF FUND 12/30/85 - 3/31/93	144.82%	13.14%

The returns shown are based on historical results and are not intended to indicate future performance. Calculations include reinvestment of all capital gains and dividends. The investment return and principal value of the fund will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Please read the prospectus carefully before investing or sending any money. *The Fund pays an asset-based distribution fee. **The Standard and Poors 500 Stock Price Index (S&P 500) is an unmanaged group of securities often taken as representative of the stock market as a whole. Performance results of the S&P 500 reflect a reinvestment of dividends. Adviser absorbed a portion of fund expenses in fiscal years 1986 to 1989.

TRUE STORY #37

When 8 gardeners quit and immediately filed workers' comp claims, we thought it was worth digging around a little.



To the trained eyes of our State Fund adjusters, the workers' comp claims of eight disgruntled gardeners all looked dubious. Especially since the workers were using the same lawyer and medical mill, and claiming suspiciously similar "injuries." So we weren't surprised when our investigation failed to unearth any bona fide ailments—unless you counted the chips on the gardeners' shoulders.

By aggressively challenging the claims before the Workers' Comp Appeals Board, we were able to get all eight of them thrown out—at a savings of almost \$100,000. Since then, we've passed our findings along to the local district attorney for possible prosecution of the individuals involved.

Unusual? Not for State Fund. Our entire network of adjusters and investigators is committed to weeding out dishonest claims, whether they're abuses of the system or out-and-out fraud. To get the full scoop on the gardeners—and find out more about preventing fraud in your workplace—give us a call.

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AIRLINE REGULATION: IS KUTTNER OFF COURSE?

Robert Kuttner's column "Flying in the face of reason: Why the skies need reregulating" (Economic Viewpoint, May 3) was basically a rehash of the stale philosophy that Kuttner has been espousing. What Kuttner fails to recognize, however, is that deregulation has brought enormous benefits to the traveling public. In the 14 years since the airlines were deregulated, passenger traffic has grown more than 70%, and cargo traffic has nearly doubled. Industry revenue has nearly tripled, from \$27 billion in 1979 to nearly \$77 billion in 1992. Employment has grown from 340,000 in 1979 to more than 530,000 today. And despite the current state of the airlines, their growth has created hundreds of thousands of jobs in aircraft manufacturing, airport development, aviation suppliers, and travel and tourism.

What Kuttner advocates by calling for reregulation is a fare increase for most travelers so that he will not have to pay as much when he wants to fly during peak travel times. The vast majority of Americans would be the losers, because communities would lose service, airports would be underutilized, jobs would be lost, and airfares would go up.

James E. Landry
 President
 Air Transport Assn.
 Washington

Robert Kuttner expresses irritation because "all airlines" charge him a \$662.50 [round-trip] coach fare between Boston and Washington, with big reductions only if he stays over Saturday night. Evidently, Kuttner's time is so valuable that he can't bother to shop around.

He could fly round-trip with no restrictions between Boston and Washington on Continental Airlines Inc. or Delta Air Lines Inc. and pay only \$400.50. A roomette on Amtrak's Night Owl would bring him to the central city in relaxed comfort in the morning and save \$400. He will consider Amtrak, however, only

if he saves \$600. But if he doesn't vote with his dollars, how can he justify his complaint?

Joel B. Dirlam
 Kingston, R. I.

THERE'S NOTHING WRONG WITH THE SEC'S 'CIRCULATION'

Your article on the Securities & Exchange Commission, "Will new blood improve the SEC's circulation?" (Finance, May 10), replays old and discredited allegations. While delays in decisions on administrative cases have been a problem for more than a decade, you barely note the most significant point: Delays have been largely eliminated since I created a task force to tackle the problem and beefed up staff. In fiscal 1990, we issued 18 opinions; in 1992, 48 opinions. You state that the "backlog" of cases is rising but don't mention that's because we are bringing 46% more administrative cases per year than when I became chairman (paralleling a nearly 200% rise in securities financings we oversee).

You note that the average time for deciding appeals in 1992 doubled from 1988. But you do not mention that this resulted entirely from clearing the backlog of old cases I inherited—including three of the four cited in your article.

Judging from the stale reporting, superficial analysis, and blatant slant of your article, one cannot but wonder whether, for those readers interested in serious reporting of business and financial news, a more important question than the one posed in the title to your article would be "Will new blood improve BUSINESS WEEK's circulation?"

Richard C. Breeden, Chairman
 Securities & Exchange Commission
 Washington

Editor's note: Breeden declined comment when the story was written.

DEFAULT RATES AREN'T THE WAY TO DETERMINE BIAS IN BOSTON

Gary Becker criticizes the Federal Reserve Bank of Boston's study showing that minority mortgage applicants are more likely to be turned down than whites ("The evidence against

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Readers Report

CORRECTIONS & CLARIFICATIONS

"Why insurance rates have lost their old bounce" (Finance, May 10) erroneously referred to American International Group Inc. as American Insurance Group Inc.

"What do Japanese CEOs really make?" (Cover Story, Apr. 26) should have identified the president of Nippon Telegraph & Telephone Corp. as Masashi Kojima.

"The comeback kid or backlash Bill?" (Washington Outlook, May 17) gave the wrong title for Joan Baggett. She is the deputy White House political director.

banks doesn't prove bias," Economic Viewpoint, Apr. 19). As Becker acknowledges, the study considered each applicant's credit history, including past defaults. But he faults the study for failing to examine the default rates and profitability of loans to minority and white borrowers.

The argument that discrimination would be indicated by lower average

default rates for minority borrowers depends on three assumptions: (1) Lenders are good predictors of default; (2) discrimination requires minority applicants to meet a higher standard of creditworthiness; and (3) the distribution of economic characteristics among white and minority borrowers is similar enough that setting a higher hurdle for minorities results in a pool of accepted minority applicants who are less likely than accepted whites to default.

Whatever one's views about the first two assumptions, the third is invalid for applicants in Boston, and probably elsewhere. The pool of accepted white applicants had a larger fraction with very low obligation and loan-to-value ratios relative to successful minority applicants. The data suggest that minority borrowers may be concentrated just above their relatively higher acceptance threshold, while the group of white applicants who clear their threshold includes a larger proportion at the upper end of the creditworthiness spectrum. Such a disparity means the whites as a group could show a lower default rate, despite a lower threshold for acceptance.

As a final point, the similarity in foreclosures in Boston provides little insight,

since many minorities purchase houses in predominantly white neighborhoods and whites also buy in minority areas.

Lynn E. Brown
Acting Director of Research
Federal Reserve Bank of Boston

NESTLE'S STAKE IN L'OREAL ISN'T L'OREAL MANAGERS' CONCERN

In "Nestlé: A giant in a hurry" (The Corporation, Mar. 22), you give me a leading impression of L'Oréal's attitude toward shareholders. Chairman Lindsay Owen-Jones has never shown the least "opposition" to a potential majority shareholding in the company by Nestlé. Indeed, he has consistently stated that executives should manage and not interfere in the separate domain of shareholder intentions or actions.

Jean-Pierre Valadier
Managing Director, Communication
L'Oréal
Paris

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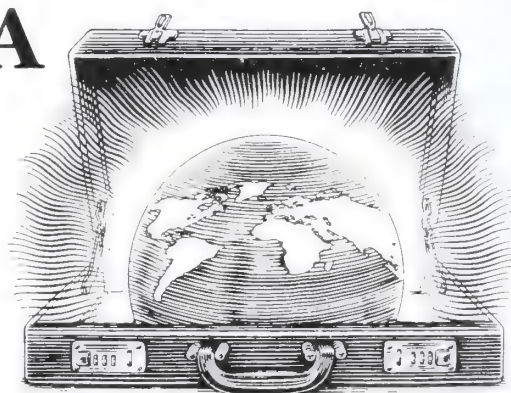
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REENGINEERING THE CORPORATION: A MANIFESTO FOR BUSINESS REVOLUTION

By Michael Hammer and James Champy
HarperBusiness • 223pp • \$25.00

REENGINEERING: BEYOND THE BUZZWORD

Every month, our senior management goes to some seminar and comes home with a new religion. We just hold our breath until they get over it.

—Unidentified manager, quoted in *Reengineering the Corporation*

Here's one idea that's going to last a lot longer than you can hold your breath: reengineering. It's the hottest management concept since the quality movement. It has made former MIT computer science professor Michael Hammer, who coined the term, a highly sought-after guru. And it has propelled Cambridge (Mass.)-based CSC/Index Inc., which conceived the approach with Hammer, to the forefront of the consulting business. Thousands of managers flock to Hammer's seminars annually, while CSC/Index expects its revenues to hit \$150 million this year, up from only \$28 million five years ago.

Already, a number of books on the subject are tumbling out, from *Process Innovation: Reengineering Work through Information Technology*

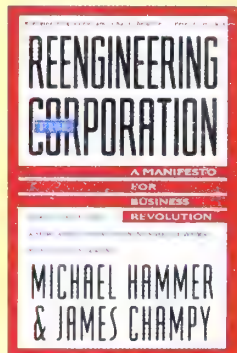
(Harvard Business School Press) to the forthcoming *Business Process Reengineering: Breakpoint Strategies for Market Dominance* (John Wiley & Sons). But the first one you should spend your time and money on is the work of reengineering's originators—Hammer and CSC/Index Chairman James Champy.

Indeed, in writing *Reengineering the Corporation*, Hammer and Champy have done some badly needed reengineering of the business book genre. For one thing, their book, at a digestible 223 pages, is succinct. For another, it offers both big-think and nuts and bolts: It lays out the reasons reengineering is important, and it provides the how-to information demanded by practicing managers. What's more, Hammer and Champy make what could be a prosaic topic interesting. *Reengineering* may well be the best-written, most well-reasoned business book for the managerial masses

since Tom Peters and Robert Waterman's *In Search of Excellence*.

Just what is this idea that has Corporate America feverishly buzzing, and why has it taken hold? While some skeptics claim that reengineering is little more than a euphemism for laying people off, the authors define the term as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed." The creative use of information technol-

The management concept means starting over from scratch, using new thinking that reorganizes work



ogy is essential, not to merely computerize tasks but to start from scratch, discarding traditions and reinventing the way work is organized.

A central idea behind reengineering is that most work in companies is organized inefficiently, around specialists employed in what Hammer and Champy call "functional silos," such as accounting or marketing. "Everyone involved in a process looks inward toward their department and upward toward their boss, but no one looks outward toward the customer," argue the authors.

That explains why it used to take IBM Credit Corp., the Big Blue unit that arranges financing for the company's computers, six full days to approve a loan application—even though the actual work consumed only 90 minutes. Documents used to move from one specialist to another. Now, a single person handles a request from beginning to end. Reengi-

neering slashed turnaround time to just four hours and the number of personnel involved was reduced.

Surprisingly, Hammer and Champy concede that 7 out of 10 reengineering efforts "fail to achieve any results"—not the sort of success rate you'd think would inspire so much interest. The reason managers continue to jump on the bandwagon is that when reengineering does work, the results are so remarkable. Successful reengineering efforts produce "quantum leaps in performance," as Champy and Hammer put it, not 10% or 20% gains.

Most reengineering efforts fail, the authors say, because people resist them. "Getting people to accept the idea that their work lives—their jobs—will undergo radical change is not a war won in a single battle," they acknowledge. "It's an educational and propaganda campaign that runs from reengineering's start to its finish." Companies that have succeeded are those that have made compelling arguments for change.

Among the many examples Hammer and Champy cite are detailed case studies delivered in the words of the managers who led major reengineering campaigns at Hallmark Cards, Tandy Corp., Bell, Capital Holding, and Bell Atlantic. These efforts are described in vivid, sometimes evangelical terms. Hallmark Cards Inc. dubbed its transformation "The Journey." Before reengineering, it took Hallmark two to three years to get a

line of greeting cards from concept to market. It discovered that during 90% of that time, work sat in someone's in-out-basket. From the time a concept was given to Hallmark's creative staff until the product hit the printing department, work was handed off 25 times.

To cut down on wasted time and spark creativity, the company grouped together people who previously had been separated by disciplines, department floors, even buildings. The upshot: Hallmark's integrated teams of artists, writers, marketers, and production people pushed new lines out within a year. Hallmark's experience, like IBM Credit's, underlines a key reengineering principle: Work is best organized around results, not tasks such as sales or production.

While these profiles capture the enthusiasm of managers who have achieved dramatic improvements, they fail to deal objectively with the trauma

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A hairpiece?

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Dermatologists conducted 12-month clinical tests. After 4 months, 26% of patients using *Rogaine* reported moderate to dense hair regrowth, compared with 11% of those using a placebo (a similar solution without minoxidil—the active ingredient in *Rogaine*). After 1 year, 48% of the men who continued using *Rogaine* in the study rated their regrowth as moderate to dense. Thirty-six percent reported minimal regrowth. The rest (16%) had no regrowth.

Side effects were minimal: 7% of those who used *Rogaine* had itching of the scalp. *Rogaine* should only be applied to a normal, healthy scalp (not sunburned or irritated).

Studies indicate that *at least 4 months of twice-daily treatment* with *Rogaine* are usually necessary before there is evidence of regrowth. So why not make it part of your normal routine when you wake up and go to bed, like brushing your teeth.

As you'd expect, if you are older, balding longer, or have a larger area of baldness, you may do less well.

Rogaine is a treatment, not a cure. So further progress is only possible by using it continuously. Some anecdotal reports indicate that if you stop using it, you will probably shed the newly regrown hair within a few months.

Why wait? Find out whether *Rogaine* is for you. Call **1-800-944-8802**. Today. We'll send you an informational brochure explaining all about the product and how to use it. And because only a doctor can prescribe *Rogaine*, we'll include a list of nearby *dermatologists or other doctors experienced in treating hair loss* and a \$10 incentive to visit a doctor soon.



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TOPICAL SOLUTION

The only product ever proven to regrow hair for male pattern baldness.

What is ROGAINE?

ROGAINE Topical Solution is a prescription medication for use on the scalp that is used to treat a type of hair loss in men and women known as androgenetic alopecia (hair loss). The scalp vertex (top or crown of the head) in men and diffuse hair loss or thinning of the front and top of the scalp in women. ROGAINE is a topical form of minoxidil, for use on the scalp.

How effective is ROGAINE?

In men: Clinical studies of over 2,000 men with male pattern baldness involving the top (vertex) of the head were conducted by physicians in 27 US medical centers. Based on patient evaluations of regrowth at the end of 4 months, 26% of the patients using ROGAINE had moderate to dense hair regrowth compared with 11% who used a placebo treatment (no active ingredient). No regrowth was reported by 41% of those using ROGAINE and 60% of those using a placebo. By the end of 1 year, 48% of those who continued to use ROGAINE rated their hair growth as moderate or better.

In women: Clinical studies were conducted by physicians in 11 US medical centers involving 256 women with hair loss. Based on patient evaluations of regrowth after 32 weeks (8 months), 19% of the women using ROGAINE had at least moderate regrowth compared with 7% of those using a placebo. No regrowth was reported by 41% of the group using ROGAINE and 60% of the group using placebo.

How soon can I expect results from using ROGAINE?

Studies show that the response time to ROGAINE may differ greatly from one person to another. Some people using ROGAINE may see results faster than others; others may respond with a slower rate of hair regrowth. You should not expect visible regrowth in less than 4 months.

How long do I need to use ROGAINE?

ROGAINE is a hair-loss treatment, not a cure. If you have new hair growth, you will need to continue using ROGAINE to keep or increase hair regrowth. If you do not begin to show new hair growth with ROGAINE after a reasonable period of time (at least 4 months), your doctor may advise you to discontinue using ROGAINE.

What happens if I stop using ROGAINE? Will I keep the new hair?

Probably not. People have reported that new hair growth was shed after they stopped using ROGAINE.

How much ROGAINE should I use?

You should apply a 1-mL dose of ROGAINE twice a day to your clean dry scalp, once in the morning and once at night before bedtime. Wash your hands after use if your fingers are used to apply ROGAINE. ROGAINE must remain on the scalp for at least 4 hours to ensure penetration into the scalp. Do not wash your hair for at least 4 hours after applying it. If you wash your hair before applying ROGAINE, be sure your scalp and hair are dry when you apply it. Please refer to the Instructions for Use in the package.

What if I miss a dose or forget to use ROGAINE?

Do not try to make up for missed applications of ROGAINE. You should restart your twice-daily doses and return to your usual schedule.

What are the most common side effects reported in clinical studies with ROGAINE?

Itching and other skin irritations of the treated scalp area were the most common side effects directly linked to ROGAINE in clinical studies. About 1 of every 100 people who used ROGAINE had these complaints.

Other side effects, including light-headedness, dizziness, and headaches, were reported both by people using ROGAINE and by those using the placebo solution with no minoxidil. You should ask your doctor to discuss side effects of ROGAINE with you.

People who are extra sensitive or allergic to minoxidil, propylene glycol, or ethanol should not use ROGAINE.

ROGAINE Topical Solution contains alcohol, which could cause burning or irritation of the eyes or sensitive skin areas. If ROGAINE accidentally gets into these areas, rinse the area with large amounts of cool tap water. Contact your doctor if the irritation does not go away. If the spray application is used, avoid inhaling the spray.

What are some of the side effects people have reported?

ROGAINE was used by 3,857 patients (347 females) in placebo-controlled clinical trials. Except for dermatologic events (involving the skin), no individual reaction or reactions grouped by body systems appeared to be more common in the minoxidil-treated patients than in placebo-treated patients.

Dermatologic: irritant or allergic contact dermatitis—7.36%. **Respiratory:** bronchitis, upper respiratory infection, sinusitis—7.16%. **Gastrointestinal:** diarrhea, nausea, vomiting—0.33%. **Neurologic:** headache, dizziness, lightheadedness, light-headedness—0.42%. **Musculoskeletal:** fractures, back pain, tendinitis—2.59%. **Cardiovascular:** edema, chest pain, blood pressure increases, decreases, palpitations, pulse rate increases, decreases—1.53%. **Allergic:** non-specific allergic reactions, hives, allergic rhinitis, facial swelling, and sensitivity—1.27%. **Metabolic/Nutritional:** edema, weight gain—1.24%. **Special Senses:** conjunctivitis, ear infections, vertigo—1.17%. **Genital Tract:** prostaticitis, epididymitis, vaginitis, vulvitis, vaginal discharge, itching—0.91%. **Urinary Tract:** urinary tract infections, renal calculi, urethritis—0.93%. **Endocrine:** 0.47%. **Psychiatric:** anxiety, depression, fatigue—0.36%. **Hematologic:** lymphadenopathy, thrombocytopenia—0.31%.

ROGAINE use has been monitored for up to 5 years, and there has been no change in incidence or severity of reported adverse reactions. Additional adverse events have been reported since marketing ROGAINE and include eczema, hypertrichosis (excessive hair growth), local erythema (redness), pruritus (itching), dry skin, scalp flaking, sexual dysfunction, visual disturbances, including decreased visual acuity (clarity), increase in hair loss, and alopecia (hair loss).

What are the possible side effects that could affect the heart and circulation when using ROGAINE?

Serious side effects have not been linked to ROGAINE in clinical studies. However, it is possible that they could occur. More than the recommended dose of ROGAINE was applied, because the active ingredient in ROGAINE is the same as that in minoxidil tablets. These effects appear to be dose related. That is more effects are seen with higher doses.

Because very small amounts of minoxidil reach the blood when the recommended dose of ROGAINE is applied to the scalp, you should know about certain effects that may occur when the label form of minoxidil is used to treat high blood pressure. Minoxidil tablets lower blood pressure by relaxing the arteries, an effect called vasodilation. Vasodilation leads to fluid retention and faster heart rate. The following effects have occurred in some patients taking minoxidil tablets for high blood pressure.

Increased heart rate: some patients have reported that their resting heart rate increased by more than 20 beats per minute.
Salt and water retention: weight gain of more than 5 pounds in a short period of time or swelling of the face, hands, ankles, or stomach area.
Problems breathing, especially when lying down, a result of a buildup of body fluids around the heart.
Worsening of angina attacks, angina pectoris, chest pain.

When you apply ROGAINE to normal skin, very little minoxidil is absorbed. You probably will not have the possible effects caused by minoxidil tablets when you use ROGAINE. If, however, you experience any of the possible side effects listed above, stop using ROGAINE and consult your doctor. Any such effects would be most likely if ROGAINE was used on damaged or inflamed skin or in greater than recommended amounts.

In animal studies, minoxidil, in much larger amounts than would be absorbed from topical use (on skin) in people, has caused important heart-structure damage. This kind of damage has not been seen in humans given minoxidil tablets for high blood pressure at effective doses.

What factors may increase the risk of serious side effects with ROGAINE?

People with a known or suspected heart condition or a tendency for heart failure would be at particular risk. Increased heart rate or fluid retention were to occur. People with these kinds of heart problems should discuss the possible risks of treatment with their doctor if they choose to use ROGAINE.

ROGAINE should be used only on the balding scalp. Using ROGAINE on other parts of the body may increase minoxidil absorption, which may increase the chances of having side effects. You should not use ROGAINE if your scalp is irritated or sunburned, and you should not use it if you are using other skin treatments on your scalp.

Can people with high blood pressure use ROGAINE?

Most people with high blood pressure, including those taking high blood pressure medicine, can use ROGAINE but should be monitored closely by their doctor. Patients taking a blood pressure medicine called guanethidine should not use ROGAINE.

Should any precautions be followed?

People who use ROGAINE should see their doctor 1 month after starting ROGAINE and at least every 6 months thereafter. Stop using ROGAINE if any of the following occur: salt and water retention, problems breathing, faster heart rate or chest pains.

Do not use ROGAINE if you are using other drugs applied to the scalp such as corticosteroids, retinoids, petrolatum, or agents that might increase absorption through the skin. ROGAINE should be used on the scalp only. Each 1 mL of ROGAINE contains 20 mg of minoxidil and 0.1 g of propylene glycol. Use only as directed.

Are there special precautions for women?

Pregnant women and nursing mothers should not use ROGAINE. Also, its effects on women during labor and delivery are not known. Efficacy in postmenopausal women has not been studied. Studies show the use of ROGAINE will not affect menstrual cycle length, amount of flow, or duration of the menstrual period. Discontinue using ROGAINE and consult your doctor as soon as possible if your menstrual period does not occur at the expected time.

Can ROGAINE be used by children?

No, the safety and effectiveness of ROGAINE has not been tested in people under age 18.

Caution: Federal law prohibits dispensing without a prescription. You must see a doctor to receive a prescription.

Upjohn

DERMATOLOGY
DIVISION

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Books

reengineering efforts obviously must be a cause. PepsiCo Inc.'s Taco Bell likened the process of reengineering to a "voyage of discovery." That voyage helped Taco Bell, which only 10 years earlier had been a \$500 million regional company, become a \$3 billion national fast-food chain. Among the things reengineered to, we are told, is the creation of a taco-making machine that churns out as many as 900 tacos an hour and a decision to shift cooking from restaurants to central commissaries to save money. What we're not told is how many jobs were lost as a result.

Ultimately, reengineering means doing more with less—not only less time but fewer people. That means individual hardship. But in these tough times, it is an idea that's bound to endure.

BY JOHN A. BYRNE

Senior Writer Byrne covers management.

BOOK BRIEFS

WHO KNOWS WHAT: THE ESSENTIAL BUSINESS RESOURCE BOOK

By Daniel Storer

Henry Holt • 1,239pp • \$45

INFORMED SOURCES

Why does a chicken cross the road? Well, you could start by asking the National Poultry Council or the Poultry Science Assn. they can't help, you might want to the Poultry Science Dept. of the University of Wisconsin at Madison, Purdue Farms Inc. in Salisbury, Md., or the Meat & Poultry Inquiry Hotline of the Agriculture Dept. *Poultry Digest* and *Egg Industry* can address the related question that begins, "Which came first..."

That's just a sample of the sources to be found in *Who Knows What: The Essential Business Resource Book*, a inch-thick behemoth that's a must for anybody seeking information about anything from business forms (page 378) to dairy farms (page 267), with brief but comprehensive sojourns in the swine industry (page 998), the sign industry (page 960), and, inevitably, the funeral and mortuary industry (page 396).

For every subject, there's information about associations, periodicals, libraries, companies, and government offices, with capsule descriptions of each. There are phone numbers (voice and fax) and names: This book immortalizes more obscure trade-publication editors than I would care to shake a stick at. Did I say stick? (Forest Products Research Society, Creative Woodworking Co., *Woodworker's Journal*...)

BY GARY WELLS

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BUICK

The New Symbol For Quality
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GETTING READY FOR CUBA AFTER CASTRO

BY RUDI DORNBUSCH



If the U.S. focuses only on hastening Fidel's exit, a unique chance to endow the island with a strong free market could be lost. Here is an economic plan to help democracy and prosperity take root in a new Cuba

We are too fixated on when Fidel Castro's dictatorship will fall, and how. The truth is, it doesn't matter whether Castro dies in bed in Spain or is strung from a lamppost in Havana. What does matter is that Washington needs a strategy for a smooth transition, social stability, and economic progress. Otherwise, extremist groups could fill the vacuum and command the agenda. U.S. policies can either help create stability and prosperity in Cuba, or they can risk promoting destitution, political and financial instability, and mass exodus to Miami.

For millions of Cubans, U.S. policy toward their homeland is decisive. There will be a Cuba after Castro, and we will have to live with it. The Havana regime certainly cannot last now that Russian subsidies are gone. Rationing has become pervasive, inventories are down to nothing, buses are not running, and enterprises have ground to a standstill because parts and raw materials are no longer available.

War economies last long—but not forever. A jape frequently encountered in Cuba has it that the revolution has three accomplishments and three problems. The three accomplishments are education for all, health for everyone, and athletic accomplishments beyond belief. The three problems are breakfast, lunch, and dinner.

OFFSHORE THREAT. If the regime retains power, it will be—at least in part—through plain repression. But also playing a role is an ingrained anti-Americanism fostered by the long state of siege and a pride in the social reforms that raised millions of Cubans from rags to some dignity.

It would be a mistake to underrate these two factors and focus merely on the present disintegration. Cuban socialism has outlived its time, but millions of Cubans don't agree that it was a mistake in the first place. To the average Cuban, life under Fulgencio Batista's repressive dictatorship was far from the American dream. The U.S. must decide how to promote the regime change and what specific set of economic proposals to offer to post-Castro Cuba.

So far, the policy has been to foster the collapse of the regime first—by an increasingly effective embargo—and to ask questions later. Even if it were a good idea, a Democratic President can't be seen negotiating with Castro in the way former President Richard Nixon could with China. But surely we can spell out what we are ready to offer once Castro is gone and free elections are a reality. What the U.S. is willing to do for Russia, we should be equally prepared to do on a scaled-

down basis for Cuba. Russia, with its nuclear threat, is a special case, but so is Cuba, with the threat of mass migration and destitution right off our shores. Specifically, the U.S. should set as priorities some of the following items:

- An immediate, major debt restructuring. Fortunately, U.S. citizens (and banks) are prohibited by law from holding Cuban debts. That makes it much easier for the U.S. to sponsor debt forgiveness, just as it did in Poland, where the debts were likewise held by Europeans, not U.S. banks.

- An immediate lifting of trade and payments restrictions, including the allotment of a sizable sugar quota. If Cuba has no markets, even a market economy cannot do much good. And as soon as possible, Cuba should be invited to join the North American Free Trade Agreement.

- An emergency financial package that allows Cuba to finance the rebuilding of industrial and consumer-goods imports. Also, the transition to a market economy and price liberalization without the risk of massive budget deficits and currency collapse. Perhaps we could divert a billion from the Russian aid package to more productive use in Cuba.

- Early membership in the International Monetary Fund and the World Bank, which would result in access to financial resources and technical expertise.

- Investment guarantees that put trade credit and direct investment in the express lane. The availability of financing avoids extreme inflation and acts as a shock absorber in the transition from a failed control economy to a fledgling market system.

- Agreement that property should not be returned to previous owners, exiles or otherwise. Property should be privatized to new owners, unimpeded by the deadlock of court battles over legally and socially questionable claims. In eastern Germany, claims of former owners will take years to settle, deadlocking prospects for reform, investment, and modernization. Whether and when financial compensation should be offered can be discussed in time. For the near term, the government's resources should be kept free for reconstruction. If the future looks reasonable or even good, Cubans will stay at home and foreign investment will come. If prospects are bleak, or worse, Cuba will go into an economic and political tailspin.

The notion that all we need is Castro gone from Cuba to get democracy and prosperity there is absurd. We may see a replica of Russia, or worse. We have won the war, even if the capitulation is slow in coming; the hard part is to win the peace.



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BY GENE KORETZ

HOME BUYERS DON'T WANT TO BET ON LOW INFLATION

Ironically, just as the Treasury Dept. has decided to increase its reliance on shorter-term borrowing to reduce its interest costs, consumers have been moving in exactly the opposite direction. In an unprecedented move, new home buyers and people who are refinancing their mortgages are ignoring the current sizable interest savings offered by adjustable-rate mortgages (ARMs) and choosing to take out fixed-rate loans instead.

In essence, says economist Michael Moran of Daiwa Securities America Inc., "the Treasury is making an implicit bet that inflation won't reignite and heat up short rates, while the borrowing public is saying that the risk of a pickup in inflation is too great to ignore."

All through the 1980s, notes Moran, the popularity of ARMs rose and fell with the size of the spread between interest

For the moment, all of this seems good for the economy. In fact, one reason the Treasury changed its borrowing mix may have been to nudge long rates down and thus stimulate housing and bolster the sluggish expansion.

Monetary policy-making could become trickier in the future, though. With more households insulated from the income-constraining effects of rising interest rates, the Federal Reserve might have to tighten more when the economy starts overheating. But at the same time, warns Moran, the Fed could face political pressures to keep rates low to avoid adding to the deficit.

WHAT HAPPENED TO THE TIDAL WAVE OF FOREIGN INVESTMENT?

In the late 1960s, Europeans worried that investment by the powerhouse U.S. economy was threatening their economic independence. In the 1980s, Americans voiced similar fears about a tidal wave of direct investment by Japanese and European companies. Now, however, investment flows have changed direction again.

Economists at DRI/McGraw-Hill point out that direct investment in the U.S. by foreign companies actually declined last year for the first time in recent memory. A small inflow of new direct investment was overshadowed by debt repayments by U.S. subsidiaries of foreign companies to their overseas parents. The latest tally marks a sea change from the acquisition boom of the late 1980s, when such investment inflows averaged \$60 billion a year.

Meanwhile, net U.S. direct investment overseas has been picking up steam. After averaging \$20 billion in the late 1980s, it jumped to \$35 billion last year from \$27.1 billion in 1991.

COMMUNITY COLLEGE EDUCATIONS PAY OFF IN THE LABOR MARKET

With the cost of a college education soaring ever higher, it's hardly surprising that roughly half of students entering college today do so at a low-cost community college. Many critics have charged, however, that such two-year colleges provide inferior educations that aren't worth the investment.

Evidence from the marketplace disagrees. A new National Bureau of Economic Research study not only confirms earlier findings that those who complet-

ed one or two years of college earn more than high school graduates. It also finds that this is as true for former students of two-year colleges as for those who studied at four-year schools.

In the study, which examined how much two- and four-year college students in the 1970s were earning in 1991, economists Thomas J. Kane and Cecelia Rouse found no significant difference in the wages of former students with similar abilities and backgrounds who had completed a similar number of credits. On average, two-year and four-year college students both earned about 10% more than high school students in every year of credits completed.

Kane and Rouse conclude that going to college pays off about the same, whether one attends a two-year or four-year institution. At either type of institution, the more semesters of study a student successfully completes, the higher his eventual earnings.

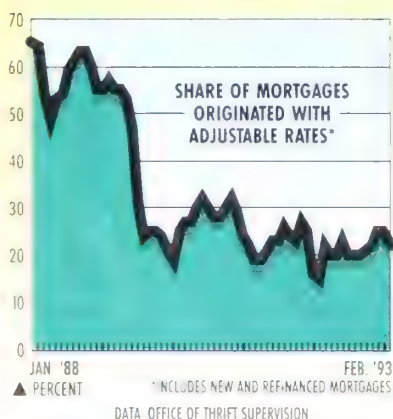
EMPLOYEE OWNERSHIP SEEMS TO GIVE STOCK PRICES ZING

Other things being equal, it may be wise to invest in public companies with significant employee ownership. That seems to be the implication of the performance of an employee-ownership index developed by Joseph R. Blasi and Douglas L. Kruse of Rutgers University and economist Michael Conte of the University of Baltimore. The index, which is not weighted by company size, reflects the average stock-price movement of all the companies listed on the New York, American, and NASDAQ exchanges that have more than 10% ownership by a broad group of employees, some 355 companies in all.

The three researchers, who began tracking the index in 1991, report that it was up 35.9% in that year, compared with increases of 20.3% in the Dow Jones industrial average and 26.3% in the Standard & Poor's 500-stock index. Last year, it posted an increase of 22.9%, while the other two indexes rose less than 4.5%. And in the first quarter of 1993, it chalked up a gain of 9.9%, vs. turns of just 4% and 4.7% for the Dow and the S&P 500.

Blasi isn't sure why the index has performed so well in recent years, though he would "like to think great employee productivity at employee-friendly firms had something to do with it." He notes that the index doesn't include the stocks of companies whose ownership is concentrated only among top management.

A SURPRISING SLUMP IN ADJUSTABLE MORTGAGES



rates on fixed-rate mortgages and the initial rates on ARMs. Whenever the spread widened significantly, more households opted for ARMs than for fixed-rate loans. In the past year, however, even though the yield spread has widened to nearly three percentage points and initial rates are well below 5%, borrowers have overwhelmingly chosen fixed-rate mortgages (chart).

The difference from past periods, of course, is the low absolute levels of both short- and long-term rates. "Most borrowers are probably convinced that interest rates can only move up from here on in," says Moran, "and they want the security of fixed-rate financing."

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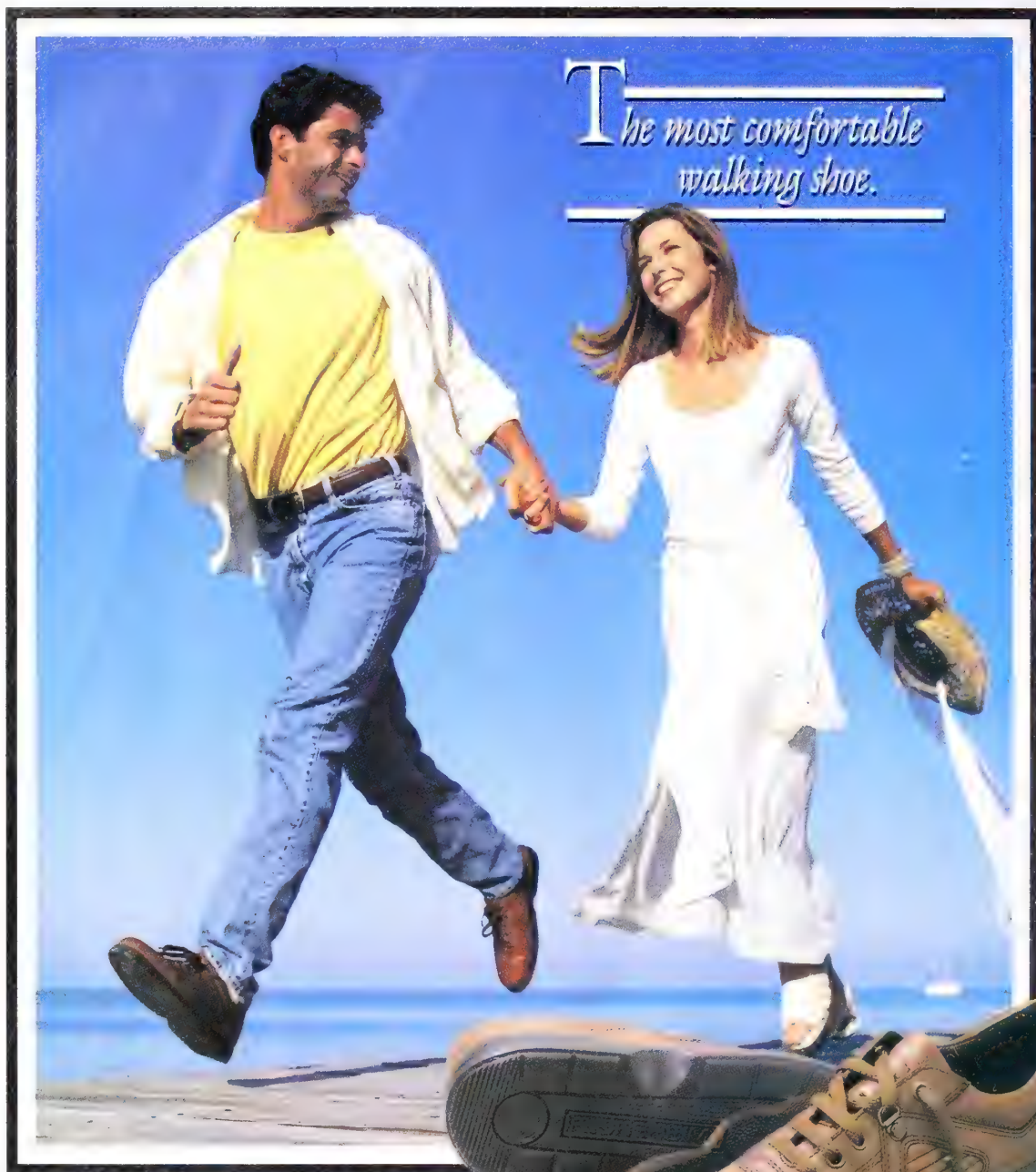
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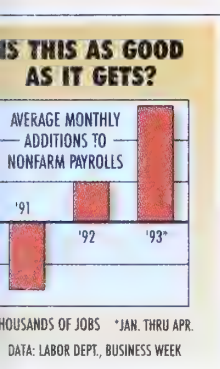
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IT'S TOO EARLY TO BLAME IT ALL ON BILL

Bill-bashing is all the rage this spring, especially on the issue of the economy. To be sure, President Clinton has left himself wide open with his loss of focus in this crucial area. And the appearance of inaction when economic growth slows is fueling disappointment among businesses and households.



The frustration level is particularly high in corporate boardrooms. U.S. business confidence in April fell to its lowest level since October, according to the Chamber of Commerce's bi-monthly survey of more than 11,000 executives. The Chamber reported declining optimism for sales, hiring, and the economic outlook generally.

Households, which are already bracing for new taxes, found no joy in the April jobs report. Nonfarm businesses added only 119,000 workers in April, below the first-quarter pace and far below that of a typical expansion (chart). The unemployment rate remained stuck at 7% for the third month in a row. Joblessness is down from 7.7% last June, but it's still higher than it was when the recession ended.

LAST PROBLEMS STILL LINGER

However, beating up on Bill over the recent slowdown is misplaced. Growth in the U.S. is slipping from the 4% pace of the second half of 1992 for three broad reasons: First, that growth rate is unsustainable. Consumers got ahead of themselves last year, and now they are catching their breath. Second, the winter storms are making the slowdown look worse than it really is. Third and most important, the economy is still under the heel of structural problems born of the excesses of the 1980s. Dealing with heavy debt, especially household and government red ink, as well as with corporate restructuring, defense downsizing, and past overbuilding has made this the weakest expansion on record.

After the recovery's pitiful first year, though, the economy's annual growth rate now has accelerated to about 3%. By second-year recovery standards, that's an economically and politically acceptable clip. However, the growth has come more from productivity—making employees work harder—than from new jobs. That's why that pace has been so unsatisfying.

For 1993, the mix of growth is tilting more toward productivity and away from productivity gains. Yet, this same

speed-up-and-slow-down pattern along a 3% growth trend will continue as long as the economy keeps bumping into those stubborn structural barriers. Those obstacles to growth are the chief reasons why job gains are so tepid—not because of a bumbling White House.

COMPANIES STRIVE TO BOOST EFFICIENCY

The best that can be said about this year's job growth is that it is an improvement over last year's. April's payroll rise means that the economy generated 140,000 jobs per month, on average, during the first four months of 1993. In the second half of 1992, businesses added 55,000 per month. But at this stage in past expansions, the norm has been closer to 200,000.

Businesses remain intent on boosting productivity in an effort to cut costs, enhance their competitiveness, and lift profits. Still, productivity growth in 1993 is not likely to match last year's impressive 3.1% pace. In fact, employees' output per hour in nonfarm businesses dipped 0.1%, at an annual rate, in the first quarter.

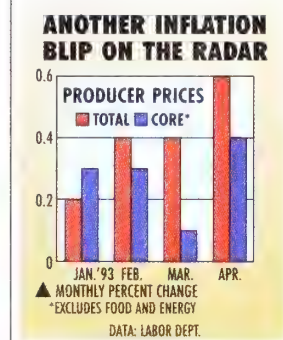
However, that weak showing followed a robust gain of 4.1% in the fourth quarter. The annual trend in productivity growth is 2.2%, which is far above the long-term trend of about 1%. Output per hour will likely rebound in coming quarters, along with the economy.

Manufacturing continues to make stellar gains in productivity. A drop in service efficiency last quarter offset a sharp 4.8% advance in manufacturing. During the past year, factory productivity was up 5%, the best annual performance in 16 years.

One benefit of the healthy trend in productivity is its downward pressure on unit labor costs. During the past year, unit costs in nonfarm businesses have risen only 1.4%, well below the rate of inflation. And in manufacturing, the labor cost of producing a unit of output dropped at an annual rate of 4.5% last quarter. Factory unit labor costs are down 1.6% from a year ago.

Against that backdrop, the steep rise in the producer price index for finished goods for April hardly seems indicative of inflation's underlying trend. The PPI jumped 0.6% last month, including a sharp 0.4% rise in the core index, which excludes food and energy (chart).

Temporary price runups accounted for the surprisingly large April increase. Crop damage from the March storm



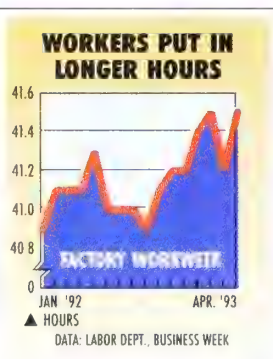
Business Outlook

caused a 45% surge in vegetable prices. Tobacco prices leaped 1.4%, despite announced price cuts for cigarettes that will show up later, and car prices rose 1.1%, although they are up only 2% from a year ago.

HEALTHIER INCOME CAN COVER THOSE IOUS

The best news from the April employment report is not what it says about jobs, but what it suggests about the second quarter. The workweek, especially in manufacturing, bounced back last month. Combined with the job gains, the longer workweek means that overall hours worked began the second quarter above the first-quarter average—a sign that second-quarter real gross domestic product is already in the plus column.

In addition, industrial production appears to have rebounded in April. Despite a loss of 65,000 jobs in manufacturing, the factory workweek jumped from 41.2 hours back up to 41.5 hours—a 26-year high (chart). Factory overtime rose from 3.9 hours to 4.3 hours—a record.



The job report also held good news for consumer spending. Personal income began the second quarter above its first-quarter level, and the workweek in retail trade recouped almost all of its record drop in March. That rebound suggests that March storms closed retail shops and depressed sales.

Total nonfarm wages were unchanged in April at \$10.79 per hour because of declines in some service wages. But overtime pay boosted manufacturing wages by 0.6%, to \$11.71 an hour. Moreover, the longer workweek means that nonfarm weekly earnings rose by 0.3% in April.

In fact, the slowdown in pay gains may be over. After falling for three years, wage growth seems to have bottomed out at a yearly pace of 2.5%. But that doesn't

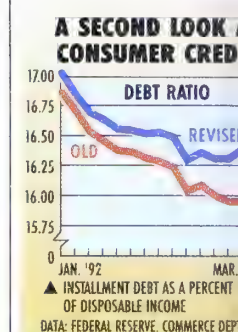
mean that wage gains are set to speed up just yet, given the ongoing slack in the labor markets. Even when it does begin to pick up, stronger productivity growth will prevent faster wage growth from feeding inflation.

Still, the gains in payrolls and weekly earnings suggest a solid advance of about 0.4% in the wages-and-salaries component of personal income in April. Total personal income probably won't do as well, however, because April data will lack the huge payout of farm subsidies that helped to lift March earnings by 0.6%.

Rising income also means that the Federal Reserve's large revisions to consumer installment credit are not that alarming. The Fed used new seasonal factors and updated data to show that credit jumped by \$7.6 billion in 1992, instead of falling by \$1.1 billion as first thought. The faster pace is continuing into 1993. Credit has already mushroomed by \$11.1 billion so far this year, including a \$3.44 billion rise in March.

Higher installment IOUs, in addition to mortgages and home-equity loans, mean that consumers still face a heavy debt burden. But because income is growing about twice as fast as installment credit, the rise in this kind of debt is still less of a problem for household finances. Even with the revisions, debt as a percentage of disposable income remained at 16.3% in March, the lowest rate in years (chart).

A bigger hitch for consumers—and the economy—may well be the tax talk filtering out of Washington. That's certainly a good reason for Bill-bashing. But right now most of the frustration over slower growth has more to do with the intractability of the economy's long-standing problems than with anything the Administration has failed to do to correct them.



THE WEEK AHEAD

HOUSING STARTS

Tuesday, May 18, 8:30 a.m.

Builders likely started construction in April on 1.2 million new homes, at an annual rate. That's the median forecast of economists surveyed by MMS International, a division of McGraw-Hill Inc. The expected April number would be the best starts level so far this year, even though rainy weather probably held back construction in some regions. Last month's increase would also be a bounce-back from March. During that month, the East Coast blizzard caused starts to tumble by 4.6%, to a 1.13 million pace. Low mortgage rates, plus stronger job and income growth and a low inventory of unsold new homes, sug-

gest that the housing industry will enjoy a fairly good spring and summer.

MERCHANDISE TRADE DEFICIT

Wednesday, May 19, 8:30 a.m.

The foreign trade deficit probably deteriorated in March, to \$7.5 billion, from \$7.2 billion in February. The March trade gap would be the largest deficit since October. The MMS economists forecast that exports of goods, which were virtually flat in February, rose very little in March. Imports, up just 0.2% in February, probably increased by a stronger amount in March. The U.S. outlook for foreign trade is not very rosy. Exports are hurting because of recessions around the globe, while the expansion here is drawing in more foreign goods.

FEDERAL BUDGET

Friday, May 21, 2 p.m.

The MMS economists expect that the federal government will report a surplus of only \$9 billion in April. If so, that would be far below the \$14 billion predicted last April, or the \$30 billion in April 1991. Because May 1 was a Saturday, the government paid Social Security and other transfer payments in late April and those early checks increased federal outlays for April. However, Washington's surplus may actually be higher than forecast because taxpayers delayed filing their income-tax returns this year until close to the Apr. 15 deadline. The fiscal 1993 deficit is on track to total about \$300 billion.

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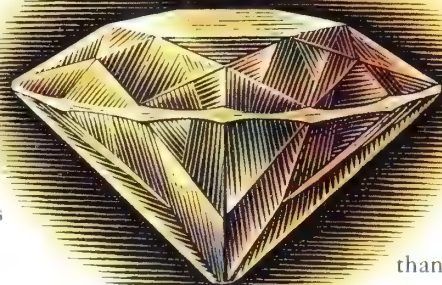
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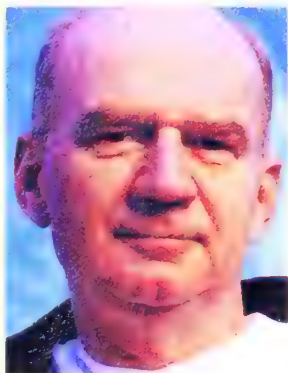
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"We all believe that everyone should have access to health care" and are hoping the Clinton Administration will develop a plan to provide it. "We are very nervous about the amount of control and the means that have been floated about financing it."

— Wayne Calloway, CEO, P...

"With all its problems, the [U.S.] health care system is the best in the world. I'm opposed to new taxes to pay for health-care reform. It can be paid for with efficiencies in the system and savings elsewhere in the federal budget."

— Ralph Larsen, CEO, Johnson & Johnson



"Getting consumerism into the system will be critically important. The theory is that if employees pay more, they'll be more cost efficient, but I don't know if that's the case."

— Richard Mahoney, CEO, Mon...



HEALTH CARE

MAY 24, 1993

CLINTON'S HEALTH-CARE SELL-A-THON

HE'S GOING ALL OUT TO LINE UP BUSINESS BACKING

Chief executives of America, beware! Right this minute, there's probably a member of the Clinton Administration—if not an actual Clinton—stalking you. On May 7, Hillary Rodham Clinton pursued corporate chiefs into their own territory, traveling to Williamsburg, Va., for what she termed "extremely productive" talks on health-care reform with the Business Council. Five days later, the First Lady met with the National Leadership Coalition on Health Care Reform, a group of big companies and unions, to push her plan. Her husband, meanwhile, hit the road on May 10 and 11 with speeches in Cleveland and Chicago aimed partly at winning supporters for the plan.

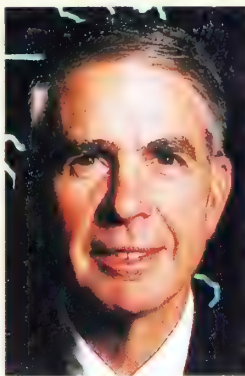
The Clintons' goal: to have as many CEOs as possible ready to salute when the White House unveils its blueprint for a health-care system in mid-June. The Clintonites need key corporate endorsements if their plan is to have a chance of clearing a wary Congress.



“We’ve been concerned that cost controls in the drug industry would be voluntary, and [Hillary Rodham Clinton] said that would be her preference.

**pharmaceutical industry
ady has intense
petition. Many are taking
erves for downsizing.”**

— William Steere, CEO, Pfizer



The proposed 7% payroll tax is “certainly in conflict with job creation, and for some companies, it might be more expensive, some less.”

— Robert Allen, CEO, AT&T

“The idea of a payroll-based premium is a fair one and could provide substantial savings for employers. But there shouldn’t be any taxation at all of health benefits.”

**— John Sweeney, President,
Service Employees Intl. Union**



dition to the high-level sales pitches, White House is dangling proposals it hopes will tempt business to over- the new health system’s price tag 100 billion or so a year. Among the posed lures: a “payroll premium” converts rapidly rising health-insur- premiums into a specified tax based payroll, and the promise of big sav- from cost controls, administrative amlining, and merging workers’ pension medical costs with the th overhaul (table, page 32).

o far, business isn’t sold. Most em- ers want to see basic reforms that make insurance affordable and slow skyrocketing cost of medicine. But nt leaks from the health-reform task e suggest that the Administration much bigger plans: phasing out licare, authorizing states to set up adian-style health plans, and creat- an expensive program for long-term e. “We’re very conscious that the re- ns we’re putting in place will last for

generations,” White House health-policy chief Ira C. Magaziner told a May 11 meeting of consumer groups.

Talk that big makes business leaders squirm. They fear that Corporate Ameri- ca will be stuck with the bill for a pro- gram over which it has little control. “Everyone agrees that there need to be changes,” says Edmund T. Pratt Jr., for- mer CEO of Pfizer Inc. “The thing that worries most business people is that [the Administration] will try to do too much too fast. The risk is serious.”

FIRST SHOT. Hillary Clinton’s Business Council visit was the opening salvo in a major White House campaign to over- come such fears. The pitch will be straightforward, says aide Alexis M. Herman: “In order to ensure a sound economy, you’ve got to do something about health care.” In coming weeks, White House officials plan to use the line in meetings with leaders from the Business Roundtable, the U.S. Chamber of Commerce, and the National Associa-

tion of Manufacturers, and with owners of dozens of small companies. Chief of Staff Thomas F. “Mack” McLarty III and National Economic Council head Robert E. Rubin, both former execu- tives, will play a key role in the corpo- rate sell-a-thon.

Among their first prospects: The Big Three auto makers, which want to un- load worker and retiree health costs that now total nearly 20% of their payroll. An endorsement from Ford Motor Co.’s Harold “Red” Poling, for example, could help convince the public that what’s good for Ford is good for America.

The problem: A plan that appeals t Detroit won’t necessarily sway execu- tives in Silicon Valley or other region, where companies employ younger, healthier workers with lower health costs. Those kinds of companies would be hard hit by the proposal to replace employer-paid premiums for health in- surance with a 10% payroll tax, for in- stance. Magaziner is peddling the pay-

Clinton is promising big savings from cost controls and administrative streamlining to woo cautious executives



roll tax, which would require companies to pay 7% or 8% and their workers to pick up the balance, as a way to make employers' expenses more predictable. "He says to us, 'If we guarantee that your costs never rise above X, will you sign on?'" says Ellen L. Goldstein, health-policy director for the Association of Private Pension & Welfare Plans.

CRAPSHOOT. That's fine for old-line manufacturers, such as U.S. auto makers and Big Steel. The payroll tax "would help employers know what their costs would be," says Richard F. O'Brien, General Motors Corp.'s vice-president of corporate personnel. But it's a problem for younger companies. Convex Computer Corp. in Richardson, Tex., fears the tax would add millions to its health tab and reduce its ability to manage costs. Once a tax is passed, warns John P. O'Loughlin, a Convex vice-president, "the government can just arbitrarily in-

crease the tax rate year by year."

Switching to a payroll-based health system would also create massive numbers of winners and losers, almost at random. Overall, a 7% employer-paid payroll tax would raise business health costs by \$48.1 billion, reports Lewin-VHI Inc., a Fairfax (Va.) health economics consultant. But over half of the 1.7 million companies that now insure employees would see their health bills rise or fall by \$1,000 per worker or more: 21.9% of the companies would pay large hikes, while 35.6% would enjoy similar cuts.

For many companies, promises of lower costs are offset by fears that they will lose control over benefits. The new health plan will sharply limit "self-insurance," the system that now covers 70 million Americans, in which employers design their own benefits and pay their own claims. And a flat national payroll tax-rate would remove any incentive for

companies to continue their local efforts to curb spending. Making matters worse, states are likely to be handed reins over much of the new health system. That could force multistate employers to conform to a host of new rules. **RELIEF.** That fear of lost control has another key Clinton proposal: merging workers' compensation with health insurance. The task force argues it will save a big chunk of the \$30 billion spent on workers' comp medical care—as much as the \$13 billion in auto insurance medical payments—through "hour insurance" that treats all injuries within the new health-care system. With workers' comp costs rising faster than health-care expenses, many companies want relief: "If we could eliminate workers' comp taxes related to health care, that would represent a significant savings for us," says a senior executive at Aluminum Co. of America.

But insurers and employer groups fear the proposed merger raises a host of problems. Employers would have to say over how injured workers are treated. And cost-conscious health providers might opt for less intensive treatments that save costs but prolong the time wages are paid to laid-up workers.

Even so, President Clinton is hoping for the same fast start he got on his economic program, which soared on enthusiastic initial support of business. But that plan sputtered when CEOs started taking a closer look at its tax demands. On health, business leaders are reading the fine print before they sign. Clinton desperately wants a phalanx of CEOs to rally around him in the White House Garden when he rolls out health-care reform. But if his plan is as cosmic—and expensive—as business fears, his initial enthusiasms may be returned unopened.

By Mike McNamee, with Susan Garland, in Washington, Judith Dobrzynski in Williamsburg, Va., Wendy Zellner in Dallas

WINNING BUSINESS OVER

How the Administration hopes to woo business support for health reform and the obstacles the plan faces:

	PAYROLL TAX	WORKERS COMP	CUT ADMINISTRATION	SELF-INSURANCE
CLINTON'S PITCH	Tax set at 10% of payrolls will put a predictable cap on business' health costs.	Merging treatment for workplace injuries with health coverage will eliminate duplication, improve care.	Cutting out paperwork will save \$100 billion or more in health costs.	Big employers will be allowed to opt out of the health alliances and continue to run their own health plans.
PROBLEM	Many companies now pay less than proposed tax. Health costs are growing faster than payrolls, so tax rate would be under constant pressure.	Businesses fear they'll lose control over treatment, pay more in lost wages as health plans prescribe cheaper, slower care.	Businesses fear strong state-chartered "health alliances" will pile on new regulatory burdens.	Clintonites will put stiff rules and levy large fees on companies that opt out.

DATA: BUSINESS WEEK

CAMPAIGN REFORM IS GETTING PECKED TO DEATH

On May 6, three days before Bill Clinton unveiled his much-ballyhooped campaign-reform package, he attended a black-tie Democratic party bash packed with Beltway lobbyists. Five days later, the apostle of reform hit a glittery New York gala led with high rollers. It's a strange way of showing the nation that the White House is committed to the first

major campaign cleanup since the 1970s, when Washington tried to mop up after Richard Nixon's Watergate abuses.

Clinton insists he's a Ross Perot-like zealot, determined to change the cash-and-car business of Washington influence-peddling. But he's trying to face a tough sell. Critics say Clinton cut so many deals to enlist Democratic support for his reforms that the package won't solve the problems it attempts to tackle. The complaints come from his own party as well as from the R.P. "You can't call this reform," storms Representative Mike Synar (D-Okla.). "You can call a skunk a raccoon, but it's still a skunk. It doesn't pass the smell test."

What's wrong with Clinton's proposals? Right from the start, he abandoned a campaign promise to end the corrupting influence of political-action committees by limiting PAC gifts to \$1,000, down from the current \$5,000. Under pressure from Democratic lawmakers, Clinton proposes to impose the cap only on Presidential PAC donations. The heavy train rolls on for House members, who would keep their current maximum. Senators agreed to only a modest reduction, to \$2,500.

SOFT CEILING. Nor did Clinton make good on his pledge to eliminate soft money—the unreported donations to state parties and other groups to evade contribution limits. His plan only bars collection of such donations by national parties, traditionally a Republican strength. Individuals could still make large gifts to state parties, as long as they're reported. Other forms of soft money—such as funds used to

pay for organized labor's phone banks and get-out-the-vote drives—would be unaffected. "It's a blatantly partisan attempt to put a cap on the types of political activities Republicans gain from," gripes Senator Mitch McConnell (R-Ky.).

The plan's limits on campaign spending also are riddled with escape hatches. There seems to be a limit of

with public funds. It would cap total PAC donations to both House and Senate candidates. The plan also prohibits lobbyists from donating money to—or raising money for—candidates they had attempted to influence within the previous year. And it takes a stab at extending public financing to Hill races by proposing to replace lost PAC funds with tax-financed vouchers for television and print ads.

QUICKSAND. Some reform groups have embraced the proposal as a significant first step toward cleaning up special-interest involvement in federal elections. But even the White House acknowledges its defects. Concedes Michael Waldman, the White House aide who drafted it: "This is not a perfect proposal."

The plan is sure to face stiff obstacles on Capitol Hill. After proposing a slew of new taxes, Clinton will have a tough time winning backing for a taxpayer-funded support program for politicians. In the Senate, Republicans could doom the proposal with a filibuster. In the House, Democratic women, minorities, hard-line reformers, conservative Democrats, and the Old Guard all have gripes. Even if Clinton pulls off a political

miracle, his plan is sure to face court challenges on constitutional grounds.

Campaign reform seems to be following a familiar pattern for the young Clinton Administration: A President who came to Washington to shake things up gets caught in the muck of Capitol Hill politics by cutting too many deals with powerful Democratic Hill barons. The result, as usual, is likely to be a watered-down compromise—or a filibuster that leaves Clinton empty-handed. Well, not exactly empty-handed. After all, there's still another fund-raiser to attend.

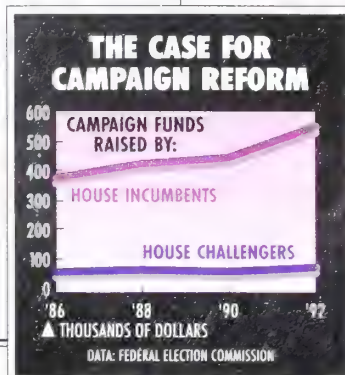
Richard S. Dunham covers Congress for BUSINESS WEEK.



The first major attempt at a cleanup since Watergate "doesn't pass the smell test," says one Democrat

\$600,000 per House race and up to \$5.5 million per Senate contest, depending on a state's size. But the House spending ceiling is adjusted for inflation starting in 1992, and it permits additional exempt expenditures for fundraising, accounting, party donations, and legal fees. And candidates with serious primary opposition can spend \$150,000 above the cap. The limit is "a joke," says former Democratic National Committee official Terry Michael. Of the 2,593 candidates in 1992, fewer than 100 exceeded the proposed ceiling.

The Clinton plan does try to reduce some of the advantages of incumbency and replace some special-interest money



A ROSE THAT GROWS IN WASHINGTON

Top partners of Hillary's Rose Law Firm in Little Rock are following her

For years, it had been a Little Rock ritual: Bill Clinton, professional pol, and Webster L. Hubbell, prominent Arkansas lawyer, would do their Christmas shopping together on Christmas Eve. But when the election turned his pal into a national celebrity, Hubbell prepared to shop solo. The President-elect, however, had other ideas. Trailed by Secret Service agents, Clinton hooked up with Hubbell, and the two chums went on their traditional trip. Turns out Santa was good to Hubbell, who landed a nomination for the No. 3 spot at the Justice Department. His confirmation hearings begin May 18.

The 45-year-old Hubbell, a partner of Hillary Rodham Clinton at Rose Law Firm, is just one of a wave of Rose partners who have trekked to Washington. In all, four key members of Little Rock's most influential law firm have wound up with top Administration jobs. In addition to Hubbell, there's the First Spouse, of course. Vincent Foster Jr. is deputy White House counsel. And William H. Kennedy III is associate White House counsel.

These Rose alumni will help make decisions on everything from health-care reform to Supreme Court nominees. The Rose crew is "reminiscent of the Georgia mafia that went up to Washington with Jimmy Carter," says Little Rock attorney Sheffield Nelson, a Republican who lost to Clinton in the 1990 gubernatorial race.

ON ALERT. But the firm's tight ties to the Clintons, especially Hubbell's, are raising eyebrows on Capitol Hill. Republican lawmakers wonder whether having a good friend at Justice makes it easier for the President to interfere in the department's law-enforcement machinery. "It's a close, close network," warns Senator Alan K. Simpson (R-Wyo.), "and it bears watching." White House Counsel Bernard W. Nussbaum insists that Justice will remain free from interference: "No one's going to push

[Attorney General] Janet Reno around."

Nonetheless, Republicans are expected to grill Hubbell at his confirmation hearings. Their latest beef is his membership in the Country Club of Little Rock. Clinton, who often played golf there with Hubbell, was criticized during the campaign for patronizing the then all-white club. (The club now has one black member, sponsored by Hubbell.)



A ROSE IS A ROSE IS AN INSIDER: BILL CLINTON AND WEBSTER HUBBELL AT A RAZORBACKS' GAME LAST FALL; FORMER ROSE "TEAMMATES" VINCENT FOSTER AND HILLARY RODHAM CLINTON

In addition, GOP critics likely will inquire about Hubbell's role in two incidents that raised questions about whether Justice is vulnerable to political manipulation: Reno's sudden decision to seek the resignation of all Republican U.S. Attorneys in March, and Justice's move in February to replace a nearly all-white jury in the fraud trial of black Representative Harold E. Ford (D-Tenn.).

Official explanations play down Hubbell's role in both events. The White

House says the request for the Attorneys' resignations was a joint decision by Reno and the President. So 60 of 93 resignations have been accepted. In the Ford case, then Acting Attorney General Stuart M. Gerson, a Ford holdover, insists that the request—the court denied—was his decision. Ford later was acquitted.

EARLY BONDS. Still, Hubbell clearly is the chief link between Justice and the White House. He was in constant contact with Foster on Apr. 19, during the fiery end of the Waco crisis. And his with the other Rose alumni run down Hubbell, Foster, and Hillary—all commercial litigators—lunched together regularly, shared an avid interest in politics, and once invested their bonuses together in an unsuccessful partnership. Foster

48, often covered for Clinton when she campaigned for her husband.

As deputy White House counsel, Foster is a major player in the selection of Justice officials and Supreme Court nominees. He brought along another former Rose managing partner, 42-year-old Kennedy, to take charge of ethics and security clearance for top Administration officials after the Zoë Baird fiasco. Foster serves as the Clintons' personal lawyer and will be more candid with the First Couple than others in his office. "I don't have to tip around them," he says.

Those who know the Rose alumni say they're unlikely to abuse their new power. Even opponents praise Hubbell, former Arkansas Chief Justice and Little Rock mayor, for his integrity. "We had a lot of handshake deals," says Theodore C. Skokos, a Little Rock attorney. "He always did what he said he'd do."

Back in Arkansas, Rose business is booming. The 33-year-old partnership, which 33 partners remain, is taking on more Washington work.

But it has no plans to switch from lobbying. The firm doesn't even plan to open a Washington office.

Rivals sense a certain false modesty all this. "They don't need a D.C. office," scoffs attorney Nelson. "They have a D.C. office right there at the Administration." Well, not quite. But the Rose transplants clearly could be far more powerful in Washington than they were in Little Rock.

By Catherine Yang in Washington



LINE UP FOR JOBS IN CONCORD, N. H.: DID ADP MISCOUNTS SKEW GOVERNMENT DATA?

NUMBER-CRUNCHER GETS AN 'E' FOR ERRORS

Automatic Data Processing has flubbed some big jobs lately

With fewer than 72 hours to go until its Apr. 22 annual meeting, there was havoc in CPC International Inc.'s executive suite. Corporate Secretary John B. Meagher had received only 72.4 million shareholder votes, too few for a quorum. The culprit: Automatic Data Processing Inc., the giant information handler that distributed and tabulated the proxies. Fumes Meagher: "Everybody gets anxious when we don't know three days before whether we'll be able to hold a meeting legally." After a last-minute rush, ADP managed to process enough votes—but then, about 4% went uncounted.

Meagher wasn't the only executive filing his nails this proxy season. Martin Marietta Corp. lacked a quorum for its Apr. 25 special meeting to approve its purchase of General Electric Co.'s aerospace business until a day or two beforehand. According to a spokesman, Norman R. Augustine was so concerned that he phoned Josh S. Weston, ADP's CEO, to complain. Martin Marietta ended up with a quorum, but with 16% fewer votes than usual.

The 1993 proxy season, indeed, was a royal mess: Officials at several large pension funds fear that ADP didn't count their ballots at all—potentially breaching the integrity of corporate

elections at such companies as Paramount Communications, Pfizer, and McGraw-Hill, parent of *BUSINESS WEEK*. Says Kurt Schacht, general counsel of the Wisconsin Investment Board, which has assets of \$33 billion: "Shareholder initiatives are difficult enough without dealing with a system that does not tabulate votes correctly."

BAD SOFTWARE? ADP officials declined to comment, but an Apr. 24 memo sent by ADP Proxy Services Div. President Rich Daly to corporate issuers and transfer agents and obtained by *BUSINESS WEEK* confirms that ADP failed to count about 5% of the votes in an undisclosed number of corporate elections. Daly blamed "a programming bug" that was "immediately corrected."

Many shareholder groups aren't so

ADP HITS A ROUGH PATCH

EMPLOYMENT HICCUPS ADP misreported labor data, thus inflating job-growth figures for the late 1980s and exaggerating job-loss figures until early 1991. ADP won't comment.

PROXY CHAOS This spring, ADP improperly counted shareholder votes in proxy contests at several large corporations. It blamed computer glitches.

UNWANTED ATTENTION Alarmed by such slip-ups, Representative Edward J. Markey may propose legislation to ensure that ADP's glitches don't recur.

sure. They're calling for audits and regulatory scrutiny into the increasingly important role in corporate elections of ADP, which handles 70% of all corporate proxies. ADP's long-held reputation for reliability was tarnished further on May 7 when the Bureau of Labor Statistics revealed that employment data it collects through state governments from ADP and other, smaller firms were responsible for inflating job-gain figures in the late 1980s and exaggerating job losses until 1991 by about 540,000 jobs.

The BLS blamed the inaccurate employment figures on the computer software that ADP and other firms use. Since the BLS was receiving the ADP data through state agencies, it took years to discover that ADP was counting the number of paychecks issued instead of the number of people paid, as the BLS asks. ADP's data "reach now into the whole fabric of our financial and economic reporting in this country," notes BLS Associate Commissioner Thomas J. Plewes. ADP wouldn't comment on the problem.

Why the chaos? Institutional investors believe that vote-tabulation problems actually existed in the past, but not enough to be noticed. That they're showing up now may be a function of ADP's aggressive acquisition strategy, which has added bulk and complexity to all its key businesses in the last 18 months.

In proxy services, ADP acquired its only sizable rival, Independent Election Corp. of America, last year in a deal that gave it a virtual lock on the market. After the deal, ADP scrapped IECA's more sophisticated computer system in favor of ADP's existing program, which was unable to handle the volume and complexity of its newly expanded role, says John C. Wilcox, chairman of Georgetown & Co., a major proxy-solicitation firm. Wilcox says he met with Daly and other ADP executives in early November and was told the software problems would be fixed.

NO CHOICE. The problems have broad implications, given that for most customers, ADP is the only place to go for proxy

services. "How do we know our votes get counted?" says Maryellen Andersen of the Connecticut Office of the Treasurer, which saw the votes for its 200,000 shares in the Paramount election go uncounted until a recount found them missing. "ADP has a monopoly, and there really isn't any control of them."

That may change. Investor groups and corporations, overwrought with ADP's fumbles, are taking their concerns to the SEC and Congress in the hopes of mak-

Top of the News

ing sure ADP cleans up its act. Representative Edward J. Markey (D-Mass.), chairman of the House subcommittee on telecommunications and finance is considering shareholder-rights legislation that could affect ADP. He is scheduled to meet with ADP and irate shareholders in late May, says an aide who notes that ADP "is relied on to be impeccable, to say that these numbers are good."

Barring severe regulatory action, though, it's unlikely that the turmoil will seep down to ADP's bottom line. The Roseland (N.J.) company is simply too powerful. It processes paychecks for 16 million Americans—easily the biggest share among independent firms—and counts proxies for most public companies. Such dominance has brought double-digit earnings growth for a stunning

127 consecutive quarters—most recently, in the quarter ended Mar. 31, with profits jumped 16%, to \$92.5 million, 12% sales growth. "This is more of embarrassment," says Merrill Lynch Co. analyst Stephen T. McClellan. "Those glitches happen." Try explaining that to an angry corporate secretary.

By Elizabeth Lesly in New York, with bureau reports

COMPUTERS

DIGITAL'S 'TROJAN HORSE'—OR JUST ANOTHER ALSO-RAN?

DEC is hoping a new PC version will boost its Alpha line

On May 25, Digital Equipment Corp. plans to storm the personal-computer market with what it claims will be the fastest machine ever to run Microsoft Corp.'s popular Windows software. As of then, crows DEC Vice-President Enrico Pesatori, DEC will have "the hottest PC with the coolest operating system."

Or so it hopes. At the heart of the new PC is DEC's Alpha semiconductor technology, introduced last November as the long-awaited successor to the company's aging VAX minicomputer line. Despite spitfire speed, a lack of software has hobbled Alpha sales. Analysts estimate that DEC has sold fewer than 4,000 Alpha machines. With VAX sales faltering, Wall Street now figures DEC will post a \$200 million operating loss for fiscal 1993, ending June 26. Not as grim as its \$636 million operating loss in 1992, but a frustrating start for Robert B. Palmer, who became DEC's Chief Executive just eight months ago.

In the long term, DEC needs Alpha to succeed, if it is to maintain its important role in the computer industry—and the new Alpha PC is key component of the strategy. Priced at just \$5,000 to \$7,000, the PC is supposed to keep VAX customers on board. And if it does well, it could win new customers by giving them a low-cost taste of Alpha's top-ranked per-

formance. "Alpha PC has the potential to be Digital's Trojan horse," says International Data Corp. market researcher Chris Christiansen.

Still, DEC faces some withering competition. A flood of new PCs based on Intel Corp.'s powerful Pentium microprocessor is due out soon, although Intel is being hampered by shortages of the new chip (page 44). And companies such as

going to be a mass-market item. A very small segment of the PC market is ready for a machine like that," warns William M. Bluestein, a market researcher at Forrester Research Inc.

Even big DEC customers seem less than enthusiastic. At Aetna Life & Casualty Co., for instance, Alpha hardware and Windows software "are two separate issues," says Lyle C. Andersen, chief technology officer. He reckons that he can run Microsoft's Windows NT operating system on more-familiar Intel-based PCs. At Rockwell International Corp., "we like what we see, but we haven't acted," says James F. Sutter, vice president for information systems. "We're guided by our own budgeting." And last year, HMO America Inc., a Chicago health maintenance organization,

WAITING FOR LIFT-OFF

Three years in the making, Alpha computers haven't gained enough momentum to supplant sales of Digital Equipment's graying VAX minicomputers. Here's the story so far:

OCTOBER, 1990 DEC promises speedy new computers to replace VAX

FEBRUARY, 1992 DEC introduces the Alpha chip, the high-speed advancement at the heart of the new computer line

NOVEMBER, 1992 The first minicomputers and workstations using Alpha are delivered to customers

MAY, 1993 With Alpha sales totaling a tepid 3,000 to 4,000 units, DEC unveils a low-priced Alpha personal computer

DATA: COMPANY REPORTS, INTERNATIONAL DATA CORP.



ROCKWELL'S SUTTER: "WE LIKE WHAT WE SEE"

IBM, Hewlett-Packard, and Sun Microsystems are doing well at Alpha's expense, says Morgan Stanley & Co. analyst Steven Milunovich.

SOFTWARE GAP. DEC faces plenty of other challenges, too. Although its own sales of Intel-based PCs will likely double in this fiscal year, to about \$1 billion, it hasn't cracked the big computer retail chains that most PC makers favor. As a result, DEC remains effectively absent from the PC mainstream. "Alpha PC isn't

worried by a dearth of Alpha software decided to keep buying VAXes.

DEC is making a big effort to remedy the situation. It's lending Alphas to customers and spending heavily to persuade software developers to target the machine. By June 30, it expects 2,600 programs for Alpha to be available. Still, Alpha has to make a big jump forward before it can pull DEC out of the slow lane.

By Gary McWilliams in Boston

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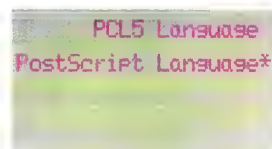


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A JAPANESE LAUNDRY WORTH \$1 BILLION?

The FBI may have traced a scheme for circulating illicit yen in the U.S.

He remains a legend in Las Vegas. Flying in from Tokyo on his private DC-9, often accompanied by dozens of his friends, Ken Mizuno would hit the baccarat pits at the glittery Mirage Hotel & Casino, at times dropping \$100,000 on a single hand. Local officials estimate that over a three-year period, Mizuno lost as much as \$60 million at the tables. The problem was, law-enforcement officials in the U.S. and Japan now believe, the cash wasn't his to spend.

Mizuno himself was arrested in Tokyo last summer and has pleaded not guilty to fraud and tax evasion; his attorney did not return BUSINESS WEEK's telephone calls. But officials on both sides of the Pacific are convinced that the property developer is one of dozens of money-laundering foot soldiers working for Japan's powerful *yakuza* organized-crime networks. "There's more money-laundering activity by them than drug trafficking" in the U.S., says Jim E. Moody, chief of the Federal Bureau of Investigation's organized-crime and drug section. In all, other FBI officials estimate, upwards of \$1 billion in illicit money was channeled to the U.S. as Japanese mobsters joined in the real estate boom of the 1980s.

COMMON TARGETS. U.S. Customs and FBI officials are said to be looking into the \$108 million purchase in 1988 of the famed Riviera Country Club in Los Angeles by a construction company owned by Kaneno and Noboru Watanabe, a father-son team with alleged ties to Shin Kanemaru. Kanemaru, the longtime power broker of Japanese politics, resigned from the Diet last autumn after the discovery that he had accepted an illegal campaign donation from the head of a delivery service with *yakuza* ties.

The Watanabes, in a letter to Riviera members, denied a May 2 *Los Angeles Times* report that they and their compa-

ny used dirty money to buy the club, although they admit knowing Kanemaru. "Mr. Noboru Watanabe has advised us that there is no ground for the allegations," Riviera General Manager Peter J. Pino wrote in the May 4 letter. BUSINESS WEEK did not reach Kanemaru for comment.

The Riviera is just the kind of investment Japanese crime families might covet. The networks earn an estimated \$10 billion a year from drugs, prostitution,

DIRTY GREEN ON THE GREENS

How the Japanese allegedly use American country clubs to launder cash

- 1 Investors lend illegally obtained money to a private investment company
- 2 Investment company uses new cash to buy a golf club or resort in the U.S.
- 3 The resort property collects huge fees for new members
- 4 Resort fees—the "clean" money—are funneled back to original investors
- 5 Eventually, the investment company sells its properties, sometimes at a loss

DATA: FEDERAL BUREAU OF INVESTIGATION, BUSINESS WEEK



L.A.'S RIVIERA COUNTRY CLUB: PURCHASED FOR \$108 MILLION

and other illegal activities, according to the Japanese National Police. They pour much of the proceeds into investment companies, which "systematically infiltrate" cash-churning U.S. and Japanese businesses "to launder their illegal funds," according to an FBI report. Golf clubs have been common targets (table).

There are several ways the money could travel. Mizuno is charged with overselling by about 20 times memberships in his Ibaraki Country Club, two hours north of Tokyo, then funneling the excess cash into U.S. investments—notably two golf clubs that now have been seized by U.S. Customs as security for his Japanese debts. But organized-crime leaders also infiltrated Japanese banking institutions, helping to secure loans for front companies they established, the FBI says.

Such activity has been widely assumed in Japan but was not well-known in the U.S. until last August, when an

informant with ties to the *yakuza* told a Senate subcommittee that he had hand knowledge of at least 50 transactions to buy properties in Hawaii and elsewhere. The witness—known only as "Mr. X"—told the subcommittee that Pebble Beach Golf Links was purchased by a Japanese executive Minoru Isutani in 1988 with loans from a Tokyo bank's development unit with links to the *yakuza*.

MONEY TRAIL. Isutani, who had hoped to sell Pebble Beach memberships in Japan for up to \$740,000 apiece, sold them at a \$340 million loss in 1992, after Japanese officials blocked development plans. Isutani says he was visited by FBI agents in Tokyo in 1991, but no action was taken. "I am clear of these allegations," he wrote the *San Francisco Examiner* last month.

The FBI has active investigations into *yakuza* money laundering in Los Angeles, Las Vegas, Honolulu, and

Springs, Calif. Worried that the money-laundering activities could be the first step toward drug and prostitution operations, the bureau is looking as well at Japanese investments in such cash-generating activities as *pachinko* pinball parlors and *karaoke* bars. But FBI efforts have been stymied by the absence of money-laundering laws in Japan.

Until tougher laws are written, U.S. Customs and FBI officials will continue to follow the money. One favorite target is Las Vegas, where casinos have traditionally catered to cash-rich Asians. There, where agents ran across the late 1980s Yasuda, whose 1988 attempt to get a license to run the Aladdin Hotel & Casino no failed after an investigation into possible mob connections. And there, where they got their first look at Ken Mizuno, the man with money to burn.

By Ronald Grover in Los Angeles, Catherine Yang in Washington and Ron Neff in Tokyo

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COMISKEY PARK: BY FALL, 1994, ONLY HALF THE PLAY-OFF GAMES WOULD BE ON CHICAGO TV

BASEBALL: SOMETHING FOR EVERYBODY—TO HATE

Fewer telecasts, less money, angry fans, suspicious players

Two blocks from Chicago's fabled Wrigley Field, the six pitching machines at Slugger's sports bar thwunk baseballs toward shaky batters. Nearby, television screens light up the action of four different Major League games. Overseeing the machines, Harvey Berger, 48, is incredulous at the news: Come October, 1994, only about half of baseball's playoff games will be available for viewing on Chicago television. "It would be a travesty for baseball fans," says Berger.

Fans aren't the only ones balking at the unorthodox new network broadcast deal between Major League Baseball and ABC and NBC. The six-year pact, announced on May 8, would scrap the huge fees that baseball usually charges networks for the right to telecast games. Instead, the league would form a joint venture with ABC and NBC to sell advertising and split the proceeds. Even by the league's most optimistic projections, baseball owners stand to make 40% less than the \$265 million a year CBS is now paying.

The owners haven't ratified the deal yet, but the fine print already has some of them steaming. At least eight major-market owners are unhappy about hav-

ing to drop 12 games from their local broadcast and cable contracts. Others worry that regionalizing telecasts—showing different games in different sections of the country—may lead to lower interest in the World Series. And fans might miss the tradition of Saturday afternoon games. Now, all games will air in prime time.

LATE CALL. What's more, the players' union is miffed that the league didn't brief union chief Donald M. Fehr, about the pact until the last minute. That may complicate labor talks between Fehr and the owner's representative, Richard Ravitch, scheduled to start some time after the All-Star break this July.

Certainly, the owners couldn't hope to do as well as they did last time around. CBS has lost \$500 million on its four-year, \$1.1 billion contract. But that won't make it any easier for financially

strapped teams: National broadcast cable rights now kick in 25% of baseball's total revenues. Under the plan, the league would receive 88% of the ad revenue raised by the venture in 1994, and 80% a year for the rest of the contract (table).

But the league still thinks it has something of value: prime-time regular season and post-season TV exposure. The league would also add an extra round of wild-card play-offs. Philadelphia Phillies owner Bill Giles, who helped negotiate the current package, says ABC and NBC are contractually obliged to promote baseball as much as any other sporting event, including the Olympic Games. "We're going to work our fannies off to make this work," he says.

EXTRA INNINGS. They'll be busy. In prime time when sports such as hockey and basketball are raising their national profile, the regional schedule may be tough to sell to fans and sponsors. The league's championship series, for example, is shown on TV in only 17% of the country if only small-market teams are playing. "The deal stinks," says one TV executive who has negotiated previous baseball deals. "They're going in the opposite direction from the sports that have grown."

Baseball's broadcasters disagree. Sports such as college football thrive with a regional focus, says ABC Sports President Dennis D. Swanson. And an extra round of play-offs will pump more games into baseball's flaccid TV ratings: "Even now, the schedule deteriorates after the division titles are locked up."

Convincing the players, though, is another matter. Their contract says the league must approve the league's plans for an extra round of play-offs. But so far, the TV deal has generated only ill will and recriminations. Fehr claims that Ravitch phoned late on May 5 and gave him 12 hours to approve an extra round of play-offs. Ravitch says no such deadline existed and that he had no obligation to inform Fehr.

League management is scrambling to smooth feathers. Milwaukee Brewers owner Allan "Bud" Selig, baseball's new general manager, says the TV deal is a

A WHOLE NEW BALL GAME

Baseball's proposed TV deal means changes for teams, players, and networks:

THE TEAM ABC, NBC, and Major League Baseball each would pay \$14 million into a venture to broadcast, sell advertising, and split proceeds from telecasts.

PLAY-BY-PLAY Networks would air selected regional contests weekly during the final 12 weeks of the regular season. Divisional play-offs, expanded to include wild-card teams, would be broadcast regionally.

THE SCORE Profit-sharing would replace up-front rights fees, with MLB collecting at least 80% of the venture's income. Baseball's 28 teams would split roughly \$158 million from national TV next year, vs. \$265 million under its deal with CBS.

DATA: MAJOR LEAGUE BASEBALL

a new labor pact are the cornerstones for baseball's future. "For all that work, there is going to have to be a reasonable effort by all parties," he says. The combination of a declining and a growing relationship, though, and such a discomfiting change seems a quixotic hope.

*By David Greisman
Chicago, with M. L. Landler in New York*



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In Business This Week

EDITED BY JULIE TILSNER

AN UPTICK IN HOUSING?

With interest rates at record lows, home sales should be booming. Not so. Sales of new and existing homes were off 1.7% in March, to an annual rate of 4 million. But that may change soon. Of 2,198 adults polled from Apr. 7-23, far more were optimistic about buying a home this year than last.

Percent who say...	1992	1993
Now is a good time to purchase a home	62%	72%
They are in the market for a home	9	12
Affordable housing is one of America's top two or three problems	35	26
They are worried about:		
• Keeping income high enough to meet mortgage payments	44	25
• Job security	29	16

DATA: FANNIE MAE NATIONAL HOUSING SURVEY

THE HEAT ON A HOT GROWTH COMPANY

► On May 11, Commerce Dept. and FBI agents raided the Costa Mesa (Calif.) headquarters of Satellite Technology Management and seized records of STM's exports of satellite communications gear to several countries, including Iran. STM Senior Vice-President Steve Strohman denies any violation of export laws, saying no charges have been filed against the company. STM is No. 17 on BUSINESS WEEK's Hot Growth list (page 68), which had gone to press at the time of the raid. On May 12, STM shares fell 1%, to close at 7%.

CONTINENTAL THROWS BOEING SOME BUSINESS

► Is that a sigh of relief in the air? Continental Airlines said on May 12 that it plans a \$4.5 billion purchase of 92

Boeing planes. Besides reinstating orders for 75 narrow-bodies, it placed new orders for a dozen 767s and five 777s, bringing Boeing's orders for 1993 to 107 jets worth \$6.51 billion. It's a win-win deal for both companies. Continental is just now emerging from Chapter 11. And Boeing has lately been order-starved. The loser? Europe's Airbus Industrie, from which Continental recently pulled back its orders.

SEARS RINGS UP ANOTHER SALE

► Going, going.... It's another success story for Sears' restructuring. On May 11, Sears Roebuck sold its mortgage-banking group to Pittsburgh-based PNC Bank for \$328 million. The deal quadruples the size of PNC's mortgage banking business, catapulting it into the big leagues with Fleet Financial and Countrywide Credit Industries. More important, it marks another victory for embattled Sears Chairman Edward Brennan, who outlined his restructuring plan last year. Already, Sears has realized \$775 million from a public offering of 20% of its Dean Witter unit. And later this spring, it could reap \$2 billion by selling 20% of its highly profitable insurance business, Allstate, to the public. In all, the company hopes

A brewery and a romance novelist? An unlikely marriage, perhaps, but one that so far looks to be a perfect match. Adolph Coors, the beer company, has sunk some \$300,000 into marketing *Perfect*, a bodice-buster by romance icon Judith McNaught about a once illiterate woman who finds sex and happiness with a handsome movie star. Coors is promoting the book as part of its \$40 million, five-year campaign against illiteracy.

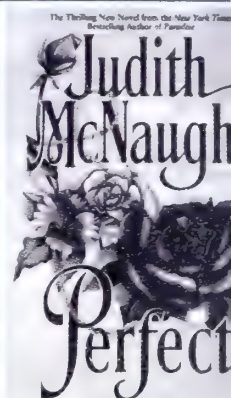
The effort seems to be working. *Perfect* was No. 10 on *The New York Times'* May 9 best-seller list. And since Apr. 15, when the book was released, some 60,000 readers have returned the postcards enclosed by the publisher, Pocket Books, to request information about how to help with literacy programs. All in all, a happy ending to an unlikely romance.

to raise \$3 billion to help pay down \$4 billion in corporate debt.

CYPRESS: IF YOU CAN'T BEAT 'EM, SELL OUT

► A few years ago, T. J. Rodgers, CEO of Cypress Semiconductor, thought he could build a microprocessor that would take on Intel. Today, he concedes that it's a tougher business than he thought. On May 12, Cypress announced plans to sell its Ross Technology subsidiary to Fujitsu for \$23 million. The subsidiary lost \$3 million before taxes in the first quarter.

LITE READING



Rodgers, who has claimed that his company could not compete with any Japanese competitor, says he feels no remorse in selling out to a Japanese company. "My patriotism does not exclude free-market transactions," he says.

NO RELIEF FOR PENTIUM DEMAND

► Meanwhile, back at Intel, there is bad news for computer buyers planning to pick up the latest in desktop tops. Despite a two-month lay in unveiling Pentium-based machines to give buyers time to build up supplies, Intel's new chip, computer makers say there is still a shortage of the Pentium. The Pentium, priced around \$50, are supposed to go on sale this week—but some PC makers won't get their first shipment until late in the year. Intel Vice-President Paul Otellini says the company will make 10,000 of the chips this quarter, within the range of projections it made to customers early this year. But he admits the number is "not the high end of the range." Says a marketing manager, "one Pentium-hungry PC maker: 'We'd love to have 10,000.'"



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THE RIGHT'S NEW ATTACK DOG: VIMPY BARK, NO BITE

When a prominent quartet of exiled conservatives created a high-powered think tank on Jan. 12, former Housing & Urban Development Secretary Jack Kemp vowed that Empower America, as it was called, would become nothing less than a "shadow government." But a few months later, the organization, beset by bureaucratic inertia, clashing egos, and a lack of consensus on alternatives to Clintonomics, has yet to cast any shadow at all. Set up with \$3.7 million in seed money from investment banker Theodore J. Forstmann Jr. and a few other well-

known backers, Empower America shows some of the GOP's sharpest tongues on its minds: Kemp's partners are Bush drug czar William J. Bennett, ex-Minnesota Representative Vin Weber, and former U.N. ambassador Jeane J. Kirkpatrick.

But instead of launching broadsides against President Clinton and generating alternatives to his policies, Empower America's big guns have been strangely ineffectual. The group issued a little-noted report of Clinton's first 100 days that accused him of straying from his centrist campaign vows. And Bennett has used Empower America to publicize his Index of Leading Cultural Indicators, a statistical portrait of America's moral decline under Clinton's Government. Notably missing: Kemp's passionate attacks against Clinton tax policies. "It's been a big windup, but we're still waiting for him to throw some pitches," grouses one GOP strategist.

DIFFERENT MAPS. Empower America was created to chart a new direction for the GOP. The aim: to avoid George Bush's credited laissez-faire policies and the polarizing agenda of the religious right while promoting government incentives for entrepreneurship and individual freedom.

But the organization's leaders have different road maps. Kemp champions supply-side economics, Bennett social is-

sues. Kirkpatrick expounds on the New World Order, and Weber tries to keep the peace. That has led to arguments, which Kemp dismisses as family squabbles. "I can't imagine any organization with any chutzpah that doesn't have a debate over what you should be doing," he says. But the tension has led to predictions that the group will break up, as Kemp and Bennett—both potential Presidential aspirants—go their own way.

Empower America also was supposed to create a grass-roots lobbying network for "progressive conservatives." It hired ex-Ross Perot aide Orson Swindle to organize the drive.

But he operates out of his Honolulu home, and thus far, there's little evidence of a grass-roots surge. Weber says Empower America will hold its first regional conference in Milwaukee in June. He claims it has 150,000 supporters. But an insider says only 9,000 cared enough to give money.

BIG STAFF. While GOP grouching grows louder, life goes on comfortably inside Empower America's headquarters. It has a staff of 26, and payroll takes up 40% of its budget. Bennett and Weber make \$150,000. Kirkpatrick and Kemp don't draw pay because they have other income. Kemp spends much of his time on the lecture circuit, where he earns up to \$35,000 a pop.

Kemp and Bennett hope Empower America can do for them what the Democratic Leadership Council did for Clinton.

That group, which Clinton once chaired, was formed after the Democrats' 1984 rout to steer the party toward more popular policies. Unlike Empower America, it began with only \$300,000 and four staffers.

Kemp & Co. dismiss the slow start. But "if we're performing at this level a year from now," confides Weber, "I'll be disappointed." More to the point, if Empower America keeps performing like this, it might not be around a year from now.

By Owen Illmann



EMPOWER AMERICA'S KEMP

PITAL WRAPUP

LENDING

Bowing to objections from banks and neighborhood activists, the White House is scuttling its campaign pledge to set up 100 community banks to provide loans to poor areas. Instead, the Administration plans to ask Congress to create an independent agency, tentatively called the National Trust for Community Development Funding, to parcel out grants and loans to existing groups that would lend to low-income areas. Banks disdained the competition the new banks could offer. And community groups like the paltry funds Clinton plans to end—less than \$400 million over five

years—would go much further if they were channeled through established organizations with innovative lending ideas.

DEFICIT

President Clinton took Senator Bill Bradley (D-N.J.) by surprise on May 12 when he announced his support for Bradley's "trust fund" for deficit reduction. The idea is to reassure voters that the money raised by Clinton's proposals for hefty tax increases would reduce red ink rather than fund new programs. Trouble is, no one—not even Bradley—knows how it would work. And a trust fund wouldn't reduce the deficit any more

than putting the money directly into the Treasury.

TRADE

The U.S. Trade Representative is moving his political team into key slots at the agency. USTR Mickey Kantor will soon fill the vacant chief of staff post with Thomas R. Nides, a former executive assistant to House Speaker Tom Foley (D-Wash.). John Schmidt, a former aide to Mayor Richard M. Daley of Chicago, will head the American delegation to the multilateral trade talks known as GATT. W. Douglas Newkirk, who had been in charge, will lead the market access talks.

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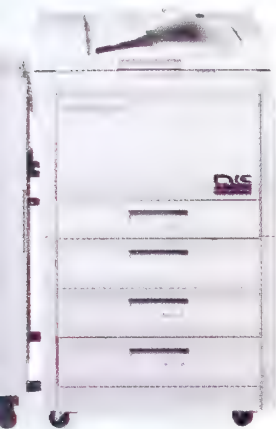
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HONG KONG

GLOBAL BANKER

WILLIE PURVES IS RACING TO REMAKE HONG KONG'S BIG BANK

It's only 6 a.m., but Hongkong & Shanghai Banking Corp.'s management boot camp is already in full swing. Through a chilly mist, a dozen groggy Asian yuppies wearing orange life preservers jog to a pier jutting off Hong Kong's verdant Tai Mong Chai Peninsula. One by one, the trainees from Malaysia, Saudi Arabia, Singapore, and Indonesia plunge into the water. The group dog-paddles into a circle, holds hands, and whoops in unison. Then it's off to another day of scaling walls, canoeing, and hiking in the rugged hills of the colony's New Territories.

A few years ago, no one within HSBC's \$1 billion tower overlooking Victoria Harbor would have dreamed such a polyglot band could move into management. Run for more than a century by an exclusive club of white males, HSBC—known locally as The Bank—stands as one of the most enduring vestiges of Britain's imperial rule.

But things are changing rapidly. With China just over four years away from taking control of the colony, which still provides a stunning 77% of HSBC's profits, Chairman William Purves is racing the clock to remake his \$258 billion banking group—from teller's cage to executive suite. In so doing, he wants to turn HSBC into a round-the-world lender rivaling Citicorp.

BALANCING ACT. This isn't the first time HSBC has entertained global ambitions. It's still licking its wounds from the 1980s, when it racked up billions in losses on a takeover of Buffalo-based Marine Midland Banks Inc. and loans to Canadian real estate developer Olympia & York Developments Ltd. and fallen Australian magnate Alan Bond. And in May, the Reserve Bank of India implicated HSBC in a \$1.3 billion stock market scandal that also involved Citi, Bank of America, and dozens of other foreign banks in 1991



1992. HSBC has not been charged with wrongdoing. It says it's cooperating with authorities and doesn't anticipate "any material losses."

BC's missteps overseas raise questions about Purves' ability to control his increasingly far-flung empire and realize global dreams. But Purves is determined to press ahead. As a 19-year-old, the rugged Scot became the first enlisted man ever to win Britain's Distinguished Service Order when his 30-man platoon survived an assault by 7,000 Chinese soldiers during the Korean War. In 1961 and nearing retirement in the next two or three years, Purves wants to leave banking with an equally distinguished record. Industry sources say that since the 1980s, he has strengthened HSBC's internal controls and placed trusted aides in sensitive overseas posts. Says Purves: "We have a lot of people pulling the rope at the same time." Achieving Purves' vision will require a delicate balancing act: minimizing the bank's risks in Hong Kong and China while not cutting HSBC out

of some of the hottest banking action in the world. With last year's \$6 billion takeover of Britain's Midland Bank PLC, only 31% of the assets of HSBC Holding PLC—the holding company for Hong Kong & Shanghai and the rest of Purves' global empire—remain in Hong Kong (chart). Purves has even shifted HSBC Holdings' head office to London. And he's planning to move there this fall, joining his presumed heir, 32-year veteran John R. H. Bond, who already is in London to monitor Midland.

HSBC's spread will make the group less vulnerable to gyrations in China's economy or to political changes in Beijing, neither idle concerns. But HSBC is likely to remain a strong presence on its home turf long after the Chinese takeover, if only because Beijing needs the bank's capital and knowhow to further its development agenda. Sensing this, Purves has cultivated ties with China's elite and is placing increasingly big bets on China's future. HSBC is now the leading foreign lender in Shanghai and is backing developer Gordon Y. S. Wu's

\$1 billion expressway connecting Hong Kong with Guang-

zhou. And it dominates the financing of Hong Kong's trade with the mainland.

Analysts think HSBC may even want to strengthen its ties with Beijing by eventually offering to sell a minority stake in Hongkong Bank or its affiliated Hang Seng Bank Ltd. to the Bank of China or another mainland institution. Even if that doesn't occur, Purves and others suggest Beijing appears to be willing to live with HSBC as a strong local player.

SINGLE CULTURE. That's the key to Purves' strategy—appearing to be a local bank wherever HSBC puts down roots. Behind this is a single culture steeped in Hongkong Bank tradition and driven by Purves. He has installed lieutenants from Canada and Singapore at Marine Midland and is reshaping Midland Bank, with \$96 billion in assets, to capitalize on HSBC's strengths. Hongkong Bank has merged its London currency-trading floor with Midland's, making it one of the world's largest. The group coordinates trading in London, New York, and Tokyo, putting it on an equal footing with J. P. Morgan and other global superbanks.

HSBC's huge profits in Hong Kong allow Purves to pursue his global ambitions. Last year, HSBC's pretax profits soared 94%, to \$2.6 billion, and Hong Kong provided \$1.7 billion of the total. Now, Purves is trying to instill in his global federation some of the methods that have served HSBC so well in the Orient. Among the features: managerial versatility, a disdain for committees, and responses on everything from customer complaints to requests for major credit lines within 24 hours. But HSBC still labors under an inbred, autocratic culture. Few Asians hold fast-track positions, and of the 400 "international officers,"

young executives traditionally groomed for service around the empire, only nine are women.

HSBC's boot camp, which seeks to build managers of different races, sexes, and nationalities into cohesive groups, is an effort to open the bank up. But old ways still endure. Many senior officers joined straight out of British secondary school and have developed a camaraderie that lets them phone fellow execs and make multimillion-dollar decisions on the spot without agonizing paper-shuffling.

The brotherhood's undisputed chief is Purves, who is the most powerful man in Hong Kong next to the governor. Inside the bank, it's entirely Purves' show. Top executives cringe when "1122," the chairman's extension, flashes on their telephones. Indeed, many HSBC bankers say privately that



Purves' passion for control is excessive.

The Purves style works in Hong Kong, where big companies are run like family fiefdoms and tycoons expect to get their loans, on the spot, over a cup of tea. Now, Purves is attempting to put his stamp on Midland. The acquisition of Britain's third-largest lender adds everyone from London-based multinationals to midsize companies in Germany to Purves' lengthy list of customers for trade finance, long HSBC's forte. Technology will be key to making it work. By installing an HSBC-developed computer system in Midland's 1,700 branches over the next five years, for example, HSBC expects to shave \$100 million a year off Midland's operating expenses.

CASH CACHE. By adding Midland's resources to HSBC's \$1 billion information-technology budget, Purves thinks he has the capital and economies of scale to speed decision-making by hooking global managers into one huge data base. To do that, Purves has consolidated group research and development in Hong Kong, London, and Buffalo.

But if Purves is counting on cutting-edge technology to leapfrog rivals in coming years, he still has to prove he can make money in the U.S. Since it first bought 51% of Marine in 1980, HSBC has seen little but losses, the result of a massively misguided push into real estate and Latin American lending. That came to an end in 1991, when Purves called in longtime colleague John Bond to clean things up. Bond and James H. Cleave, a dogged cost-cutter whom Purves brought from Hongkong Bank of Canada after Bond was named Group CEO last year, have shaken Marine to its roots. With HSBC injecting \$1.8 billion into Marine, they cut its staff 29% and pared its assets from \$27 billion to \$17 billion.

Now, with Marine making money again—it earned \$34 million in the first quarter—Cleave is thinking of buying some smaller banks. He's also prodding staffers to deal with customers the quick-decision, Purves way. "I abhor committees," says Cleave. "That's Willie's philosophy."

As long as booming Hong Kong provides HSBC with a cornucopia of cash, Purves and his successors will have plenty of room to experiment their way to global might. In the twilight years of the colony that the bank helped build, Purves is forcing HSBC onto an irrevocable course of change. That may expose the bank to stresses as great as it ever has endured. But to Willie Purves, that's the price of being a global banker.

By Pete Engardio in Hong Kong, with Paula Dwyer in London, William Glasgall in Buffalo, and bureau reports

BRITAIN

PUT AWAY THE PONIES, JEEVES, AND SEND IN THE PR CHAP

The Prince of Wales drops polo and starts sprucing up the royal image

In the court of public opinion, the Prince of Wales has a formidable rival: another royal named Diana. Diana's April speech to a London conference on eating disorders garnered such front-page headlines as *The Guardian's* "Princess Delivers Spellbinder on Anorexia and Bulimia." Meanwhile, Charles's oration in Cambridge next day on global security got minimal coverage.

But Charles's handlers aren't about to let Lady Di, now estranged from her husband, get in the way of their man. They feel it's high time the world learned that beneath the eccentricities

message of his tireless activities across the Prince's office has hired one of London's top PR execs, Belinda Harley. She's a close aide: "Unless you communicate what he's doing, he's just another polo player with a bad marriage." Make that former polo player: The Prince has given up league polo to look more serious. He helped persuade the Queen to pay taxes and to open Buckingham Palace to public tours.

The Prince regularly consults with top businessmen such as Sir Allen J. Sheppard, chairman of Grand Metropolitan PLC, and rock impresario Harvey

Goldsmith, who advise him to persevere and go global with his dealmaking and speechifying. "He ask me if he has right to express views," says Sheppard. "I tell him has an obligation."

And the royal audience can still open doors. "There aren't too many people who are going to turn down a chance to meet the Prince of Wales," notes Lodwrick Cook, Atlantic Richfield Co. chairman and a backer of several of Prince

Charles's programs. The Prince has raised money for a trust that is training the unemployed and giving entrepreneurs seed capital.

Although every Briton can tell you about Charles's alleged off-color phone calls to his putative mistress, the hard work has produced converts among the commoners. In Llanelli, Wales, where unemployment stands at 17% and social programs are being whittled down, the pull of Prince Charles lured Sarah Williams to take three months off from her job to work in his volunteer program at a school for handicapped children. "He's got radical ideas," says Williams. "The country needs somebody like him to survive." And perhaps Charles needs royalists like Williams to survive as well.

By Richard A. Melcher in London

and alleged affairs, the Prince of Wales is a royal with a conscience, determined to help his country and leave his mark on the age. Just in the past month, Charles's office has announced plans for everything from a fund for small businesses in Africa and Asia to an environmental program for global hotel chains.

ROYAL ROMPS. The Brand Royal, to use a marketing metaphor, could do with a repositioning. Numerous line extensions, including Lady Diana, Prince Andrew, and the Duchess of York, have attracted enough negative publicity through their romps to erode decades of goodwill acquired by the Queen and Queen Mum. "If they continue to offend people," says veteran royal watcher James Whitaker of the London *Daily Mirror*, "the survival of the monarchy is at stake."

Not if Charles can help it. To get the



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ITALY

PRIVATIZE THE BEAST

Strategists say that's the only way to save debt-drenched IRI

Late last summer, Michele Tedeschi knew he had some tough days ahead. The mild-mannered official from Southern Italy had just taken on the top job at state-owned Istituto per la Ricostruzione Industriale (IRI), a holding-company colossus whose interests range from banks and telephones to yogurt and olive oil. Given IRI's heavy debt and Italy's weak economy, Tedeschi figured that IRI, with \$53 billion in group sales, would need some rejigging here and a little restructuring there to brighten its ho-hum performance.

Those must now seem like the good

ing and engineering. "It's a real break with the past," he says.

Already, the sheer size of IRI's losses is sending shock waves throughout beleaguered Italy. After all, IRI has been at the very heart of Italy's mixed economy since the country began lifting itself out of the ashes of World War II. With 9.5% unemployment and zero economic growth, the country can ill afford problems at its biggest business group, employing 400,000 people. And at a time when Italy's postwar political and financial institutions are under

Gradually, the outlines of a new IRI are shaping up, says Tedeschi. Today's unwieldy portfolio of scores of companies, from Alitalia to a 25% stake in French-Italian semiconductor manufacturer SGS-Thomson, will be pared down. Remaining will be something more akin to an investment company with minority participation, mostly in engineering group Finmeccanica and STET, the telecommunications holding company. Eventually, holding company shares may be sold to the public. It adds up to a recipe for change for a group that has long benefited from Italian pork-barrel politics.

WORKING FAST. It will be some time before what went wrong can be sorted out. Last spring, IRI was counting on a modest profit for the year. But in September, serious problems began to emerge in ILVA, the IRI-owned group that is Italy's largest steel company. Later, IRI's

tecnica, the group's huge general-contracting company, started hitting the skids.

Now, Tedeschi and Ciucci are working against the clock. Over the last couple of months, they have raised hundreds of millions of dollars selling off tax credits and rights to future dividends from shares IRI owns. Those gimmicks raised enough cash to pay the bills over the first half of this year. But IRI can't start any more financial window dressing, says a top official of Italy's Treasury Ministry, which technically owns 100% of IRI.

Critics are already saying that Tedeschi is moving too slowly. With a career spanning 33 years within Italian state industry, Tedeschi is seen by some as being too

close to the old guard. According to one prominent Italian economist: "Tedeschi wants to channel funds to keep the system in place, and that's very different from privatizing."

Tedeschi rejects the argument that IRI is moving too slowly to privatize. He and other IRI executives note that privatization has slowed in other European countries. But as IRI's huge losses indicate, Italy's state companies need fresh blood sooner rather than later.

By John Rossant in Rome



CHUNKS OF IRI'S FOOD AND RETAILING GROUP WILL GO ON THE BLOCK

old days. On May 11, the group was rocked by the arrest of Chairman Franco Nobili on corruption charges. And Tedeschi, 53, says that IRI will announce 1992 operating losses of a cool \$2.9 billion when its board meets next month—one of the largest pools of red ink ever in European corporate history.

SHOCK WAVES. The earnings debacle, and the need to cover around \$7 billion in bad debts, is forcing Tedeschi and IRI to begin the biggest downsizing of a state-owned giant yet attempted in Italy. While IRI has sold off assets before, Tedeschi notes that now it will be getting out of entire sectors, such as bank-

fire as never before. IRI's problems are adding to the deep sense of crisis that is pervading the country.

To get back on track, IRI strategists figure that privatization is the only option. By the end of next month, says Tedeschi's finance director, Pietro Ciucci, IRI will have sold off chunks of Naples-based SME, its food and retailing group. Managed by Wasserstein, Perella & Co., the sell-off will pump as much as \$1.5 billion into IRI coffers. By the end of the year, says Ciucci, IRI will also have spun off most of its 67%-owned Credito Italiano, the country's fifth-largest bank.

IRI'S BIGGEST HOLDINGS

1992 Sales IRI's stake

STET

Telecommunications

\$18.0 Billion 52%

FINMECCANICA

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JAPAN WILLING TO PAY THE PRICE OF GLOBAL POWER?

Japanese were shocked last month when suspected Khmer Rouge guerrillas gunned down U.N. volunteer Atsuhito Nakata in Cambodia. Then, when policeman Haruyuki Nakata was assassinated there four weeks later, Japan was edged into doubt over just how much the country should sacrifice in the name of a greater international role.

For years, the U.S. and other big powers have been prod- Japan to shoulder global responsibilities more commensurate with its economic clout. Japanese Foreign Ministry officials and leading politicians have also argued that the country shouldn't be content to sit back and practice checkbook diplomacy. After much controversy, Japanese officials selected peacekeeping as a safe way to enter the international waters. To get around constitutional bans on sending troops abroad, they adopted the U.N. Peacekeeping Operations Cooperation Law last year and sent 600 Sea-type troops, 75 civilian police instructors, and 8 cease-fire monitors to Cambodia.

OF HARM'S WAY. But the Cambodian operation is turning into a painful test of the country's will to be a global power. Public-opinion polls now show a majority of Japanese favoring full withdrawal. Some opposition parties are up in arms. "The two deaths were really a surprise to the Japanese people because the government said the PKO had no enemies," says Manae Kubota, a Japan Democratic Socialist Party member of parliament.

Feeling pressure, the Japanese government is pushing the U.N. Transitional Authority in Cambodia (UNTAC) to move the force to safer areas. And even a key architect of Japan's PKO strategy, Foreign Affairs Parliamentary Vice-Minister Koji Kakizawa, tells *BUSINESS WEEK* a partial withdrawal may be unavoidable if the Khmer Rouge turns up the heat before elections in late May. Japanese pols are worried about a backlash

in parliamentary elections that must be held by early 1994. "Every time I go on TV, my wife complains about all the calls from constituents saying they can't support me," Kakizawa says. He also worries that "any more casualties will cause serious damage for Japanese participation in future U.N. PKOs."

But a Japanese pullout would be a hard blow to the country's international aspirations. For instance, Japan's effort to win a permanent seat on the U.N. Security Council would be bound to suffer. "It would really give people pause as to

what Japan's all about, whether they're big-league players," says a Clinton Administration Japan specialist.

"WE'RE NOT READY." Japanese internationalists are issuing similar warnings on TV talk shows and in newspaper interviews. But the public may not be swayed. "We talk a lot about the internationalization of Japan, but we're not really ready," says Tatsuro Kunugi, professor of international cooperation at International Christian University in Tokyo.

Still, the government is preparing to stick its neck out further. Japan is

already committed to sending military engineers to Mozambique under another U.N. operation. And PKO advocates such as Kakizawa and Seizaburo Sato, the influential research director at Tokyo's International Institute for Global Peace, argue for revising the PKO law to allow Japanese participation in more risky U.N. efforts, such as peace enforcement with heavy arms. "That's the trend," Sato insists.

Maybe it is among Japanese globalists. But for many Japanese, the loss of a single Japanese life in war isn't worth the potential gain in prestige. These deep-seated pacifist sentiments will make Japan's pursuit of a bigger international role treacherous indeed.

By Robert Neff in Tokyo



A JAPANESE PEACEKEEPER IN CAMBODIA

GLOBAL WRAPUP

WINDING UP ITALY

The Italian political upheaval continues. Mario Segni, the leader of the center-right electoral-reform movement, is looking to form a new, nationwide center-right party as the country heads toward key June municipal elections. At the same time, just-departed Prime Minister Giuliano Amato, once a leading light of the discredited Socialist Party, is sending out feelers about forming a new center-left grouping. Umberto Bossi, the fiery leader of Northern Italy's Lombard League, appears to be the early winner. The league will likely take over the city government of Milan, Italy's economic

capital. Bossi is now trying to expand into the south, which he previously scorned as corrupt and backward.

AMEX CHIEF TO MEXICO?

James R. Jones, a former U.S. Representative from Oklahoma and current president of the American Stock Exchange Inc., has the inside track to be named ambassador to Mexico, sources say. Jones is a pro-business Democrat who favors the North American Free Trade Agreement. His nomination would be intended to soothe Mexican jitters about Clinton's commitment to the treaty. A spokesman for Jones said "discussions have taken place" concerning the appointment.

MAJOR DIFFICULTIES

How much flak can British Prime Minister John Major survive? Among his several liabilities: His Conservatives recently lost a House of Commons by-election and control of 15 of 16 local councils. The Conservatives are deeply divided over European union and economic policy. Rebellious backbenchers are openly demanding that Major dump Chancellor of the Exchequer Norman Lamont for proposing a 17.5% tax on home heating oil. Major is under pressure to reshuffle his Cabinet, and the Prime Minister could face a serious leadership challenge by fall.



THE RUMBLE HEARD ROUND THE WORLD: HARLEYS

Through canny marketing, the bikes are an overseas favorite

Katsumi Abe fell in love with Harley-Davidson motorcycles just after World War II, when as a small boy he was awed by the American soldiers powering their big bikes through Tokyo's rubble. Today, at 53, he heads a Harley riders' club that goes out touring once a month in military-style formation. Takehiko Shibazaki's fascination with Harley is different. In the 1970s, as a young mechanic, he scrimped to buy a Low Rider to take apart. Now, he is Tokyo's unofficial guru for rebuilding and restoring Harleys, and young leather-clad bikers flock to his Sundance Motors shop.

Middle-aged nostalgics or Hell's Angels wannabes, Japanese Harley fans aren't alone. Across the Australian outback, on roads winding through Germany's Black Forest, on Mexico City's crowded streets, scores of riders are discovering the thrill of hopping a Harley. These bikers, mostly professionals who can afford the up-to-\$25,000 price tag attached to Harleys overseas, have been won over by the company's aggressive marketing during the past four years that capitalizes on Harley's classic American image. Harley-Davidson Inc.'s bike sales abroad are expected to hit \$285 million this year, or 24% of the

company's \$1.2 billion total, up from \$115 million and 14% of sales in 1989. Says Harley Motorcycle Div. President Jeffrey L. Bleustein: "There's just tremendous opportunity for us overseas."

It's an opportunity Harley had to let lie fallow until fairly recently. In the early 1980s, poor quality and Japanese imports drove the company to the brink of bankruptcy. Its share of the U.S. super-heavyweight market—motorcycles with engine capacity of 850 cubic centi-

meters and up—collapsed from more than 40% in the mid-1970s to 23% by 1983. But Harley fought back. After winning tariff protection against heavy weight bike imports, it worked to eliminate oil leaks and excessive engine noise.

It overhauled its marketing, too. The strategy: Package a lifestyle, complete with Harley Owners' Groups (HOGs), magazines, clothing, and biker rallies. Sure enough, the company attracted aging baby boomers trying to feel young. By 1989, its U.S. market share hit 63%.

The comeback complete, Harley began to focus on overseas markets. While it had been exporting motorcycles from its Milwaukee headquarters since 1903, foreign sales remained a neglected stepchild. Little effort was made to build a dealer organization overseas. And Harley's idea of international marketing consisted of translating U.S. ads word for word into another language.

CULTURE GAP. In the late 1980s, Harley began to recruit more dealers in Japan and Europe. More important, it decided to customize its U.S. marketing package for different cultures. "As the saying goes, we needed to think global but act local," says Harley's vice-president for worldwide marketing, Jerry G. Wilke.

For Harley, that meant creating HOGs overseas so customers could exchange tips and talk biker talk. It meant publishing Harley magazines in foreign languages and staging beer-and-band rallies. But it also meant changing ads and tweaking its tried-and-true methods of building customer loyalty.

Take Japan. Until 1992, corporate headquarters had insisted the Japanese division use the U.S. print-ad campaign. But Toshifumi Okui, president of the Japan unit, worried that desolate scenes and the tag line "one steady constant" wouldn't win over Japanese riders. Last

year, he finally got permission to run a separate ad campaign juxtaposing American images with traditional Japanese ones: American riders passing a geisha in a rickshaw, Japanese ponies nibbling at a Harley motorcycle. "Harley wasn't very internationalized," says Okui, "but they're eager to listen." It's too soon to pinpoint the new campaign's effect on sales. But waiting lists for Harleys in Japan are as long as six months.

Sometimes the change have been more subtle. Last summer, the company sponsored its first rally in southeastern France, where people tend to keep later hours than in the



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U.S. Harley supplied beer and rock-and-roll until midnight, then turned off the lights. "People asked why we were ending the rally just as the evening was starting," says Wilke, who was in attendance. "So I had to go persuade the band to keep playing and reopen the bar until 3 or 4 a.m."

At the same time, Harley wants to make the most of the Americana boom that has fueled overseas sales of Coca-Cola, McDonald's burgers, and Levi's. The company makes sure foreign customers can achieve the complete biker persona. In Tokyo, where appropriate gear is considered a fashion must for motorcycle riders and people like to customize their bikes, Harley has two stores that sell nothing but its clothing and accessories.

FAST GERMANS. There's one lesson learned in the U.S. that Harley is applying everywhere: Success comes from getting close to the customer. At home, most Harley executives ride motorcycles, belong to their local HOG, and travel around the country to speak with Harley riders. Wilke does the same overseas. Last year, he biked through Germany and France, and now he's planning a trip to Britain. During the 1992 trip he learned that German owners often ride their Harleys at more than 100 miles per hour. That's leading Harley to look at ways of creating a smoother ride and to emphasize the sale of options that offer more rider protection. And with biker rallies less widespread in Europe than at home, Harley encourages dealers to host open houses and lectures.

Some dealers worry that Harley's overseas boom may be just a fad. But Wilke believes the marketing program and customer ties Harley is building will ensure long-term growth overseas. Next year already looks like a sure thing: Most overseas dealers have sold out their 1993 models and are taking orders for 1994. And the company won't be able to meet demand for years, says Wilke, because its factories are already operating at capacity and U.S. demand remains strong.

The shortage has given U.S. riders some interesting arbitrage opportunities. Last year, Dallas-based TV-commercial director Rocky Powell took his Harley to Europe and rode through Germany, France, and the Netherlands. When he reached Amsterdam, he sold the beaten bike to a dealer, reimbursing himself for half his vacation. As more motorcyclists around the world catch Harley fever, other enterprising Yanks will no doubt find ways to make a quick buck. And no one will be happier than Harley.

By Kevin Kelly in Chicago and Karen Lowry Miller in Tokyo, with bureau reports

Government

POLICYMAKERS



TYSON: LESS INTERESTED IN THEORY THAN IN PRACTICAL SOLUTIONS

CLINTONOMICS IS LOOKING A LOT LIKE TYSONOMICS

The controversial CEA chief is having a big influence on policy

When President Clinton tapped economist Laura D'Andrea Tyson to head the Council of Economic Advisers, the economics profession went into shock. Tyson, 45, is outspoken and infinitely more interested in the hot-button issues of trade and technology than macroeconomics. Since then, Tyson has had to compete with a slew of Clinton econo-gurus, among them National Economic Council Director Robert E. Rubin, Labor Secretary Robert B. Reich, Treasury Secretary Lloyd M. Bentsen, and Treasury Under Secretary Lawrence H. Summers. All that led to predictions that Tyson's influence would be limited.

It hasn't happened that way. The economics profession may still be in therapy over the appointment, but just listen to President Clinton's tough critiques of Japan's sheltered markets, his support for "results-oriented trade policy," or talk of a U.S. "investment deficit," and you're hearing pure Tyson. Administration insiders say that while she must share authority with other advisers, Tyson's influence on the President remains high.

The relationship is all the more remarkable since Clinton, whose inner circle is made up largely of old friends, hadn't even met Tyson last August when he gave her a last-minute invitation to the Governor's Mansion in Little Rock for an economic-policy salon. The parlor was filled with more prominent economists—Summers, Nobel laureate James Tobin, and Alan S. Blinder of Princeton University among them. But the talk centered on issues that Clinton—and Tyson—are most interested in. Does manufacturing matter? How can America compete with low-wage nations? Can the huge U.S. defense complex be converted to civilian uses? Just finishing a book on that very subject, Tyson held forth on the need for the U.S. to preserve high-wage, high-skills manufacturing jobs. Clinton was impressed. When, months later, Tyson handed him a first edition copy of her book *Who's Bashing Whom? Trade Conflict and High Technology Industries*, Clinton read the book.

Still, it wasn't exactly an easy climb to the Cabinet for the controversial University of California at Berkeley econ-

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mist. When her name appeared on the short list of possible CEA chairs, a dubious Warren M. Christopher, co-director of the transition team, ordered an aide to poll mainstream economists on her writings. But others close to Clinton, particularly trade hard-liners, were more enthusiastic. When Treasury chief Bentsen first met Tyson, he stuck out his hand and exclaimed: "Great book!"

Not all of Tyson's economic colleagues share that view, partly because she isn't a macroeconomist—traditional for the CEA post. Indeed, Tyson is less interested in the theoretical interplay among

ly calls Federal Reserve Chairman Alan Greenspan to report the latest Administration economic statistics.

What is the Tyson philosophy? "She's not the trade hawk that many people regard her as," says one Administration economist. "There's plenty of caution behind her activism." Says Tyson: "I'm not a protectionist. I'm a liberal economist with a cautious, activist bent, so I'm not going to be the favorite of some ideological conservatives."

In fact, her ideas on trade are radical mainly when compared with the hostility of the Bush CEA to anything that

she adds, "there is no way we can cut the deficit without an increase in revenues."

Tyson also thinks it's shortsighted to worry about the budget deficit without also considering the "public investment deficit." So she pushes for more spending on education, training, and research. No longer is government, or short-term increases in the deficit, the enemy.

In the tedious Roosevelt Room sessions to craft the Administration's 1994 budget, Tyson argued forcefully that the wobbly economic recovery could not tolerate a dramatic cut in the deficit. She helped talk Clinton out of his campaign promise to cut the deficit in half by 1995. Aided by Bentsen, who argued that Congress would not go along with more drastic cuts—such as a freeze on Social Security benefits—Tyson prevailed over the deficit hawks, Budget Director Lee E. Panetta and his deputy, Alice M. Rivlin. Tyson "spoke up often and was quite effective," says Rivlin. Tyson even persuaded the White House kitchen to add a plate of fruit to the cookies served as a snack at the long sessions.

BIG TEST. Tyson is not above using the tax code for social engineering or income redistribution. She pushed for the Administration's \$73 billion tax on the energy content of fuels as a desirable conservation measure. During the campaign, Tyson supported middle-class tax cuts only if offset by hikes on upper-income individuals to "restore greater equity." Similarly, she has argued for taxes on alcohol and tobacco as a way to discourage unhealthy behavior while raising money for health reform. A higher minimum wage without a rise in unemployment? Possibly, she says.

Tyson has helped her own cause by keeping out of Cabinet department business. "My job is to explain, defend, help analyze, and make policy," she says "but not to implement it." Tyson's reputation for avoiding bureaucratic wrangles could soon be confronted with a supreme test, however, over Hillary Rodham Clinton's ambitious health-care plan. Tyson, along with Clinton's other economic advisers, agrees that all of the Administration's economic goals could be thwarted by the unchecked rise in medical costs.

But Administration economists worry that unless the health plan is scaled back, carefully phased in, and stripped of such onerous features as mandatory price controls, the reform effort could founder. Will Tyson & Co. be willing to butt heads with the reformers, including Hillary? Even given the CEA chief's track record to date, Tyson may still find herself odd woman out.

By Paul Magnusson in Washington

THE TYSON PHILOSOPHY

TAXES

Higher taxes on the wealthy are necessary to reduce the deficit, restore progressivity, and allow needed government investment in infrastructure, education, and training. Taxes can also promote social goals, such as energy conservation, and discourage harmful behavior, such as smoking.

TECHNOLOGY

The federal government should encourage the growth of high-wage, high-technology manufacturing jobs by funding basic research. Technology-intensive industries pay extra dividends to society in employment, productivity, and research.

TRADE

Because government policy can provide a nation's manufacturers with a comparative advantage in trade, it may be necessary to counter another's subsidies or threaten retaliation for unfair practices. All advanced nations manage their trade in high-technology goods with special strategies, and the U.S. should, too.

COMPLIANCE

Once a nation agrees to open its markets to the U.S., actual growth in sales and market share should be monitored and enforced.

DATA BUSINESS WEEK

inflation, employment, interest rates, and growth than she is in practical solutions to festering economic problems. "Clinton is far more interested in the structure of the economy than in economic theory," notes Reich. "Laura's research has always been focused on how things actually work."

KEY FORCE. If Tyson's choice startled the textbook writers, it also signaled that Clinton is intent on remaking U.S. policy on technology, trade, and international competition. And for her part, Tyson seems intent on expanding her influence yet further. By all accounts, she has been at the center of debates over trade policy toward Japan, Mexico, and Europe. And she has been a key force in debates on health-care financing. "When the President clicks off the people he wants in a meeting, Laura is always there," says Cabinet Secretary Christine A. Varney.

Clinton also keeps up a running correspondence with Tyson, sending her notes and newspaper clippings. So frequent have the messages been that Tyson can now almost decipher Clinton's miserable handwriting unaided. Tyson also regular-

ly smacked of industrial policy. The theme of her book: Japan, France, and Germany have created an artificial advantage for their favored high-tech industries to preserve high-wage jobs. As those industries profited from economies of scale, it became harder for U.S. companies to compete. Hence, Washington may be called on to act as a partner, particularly in fostering technologies with broad applications.

On other issues—regulation, taxes, and spending—Tyson is more of an unabashed liberal. "Americans are not overtaxed," she says, arguing that nearly every other government in the industrialized world taxes a larger share of gross domestic product while enjoying higher savings and investment. "And,"

**"I'm not a protectionist.
I'm a liberal economist
with a cautious,
activist bent..."**

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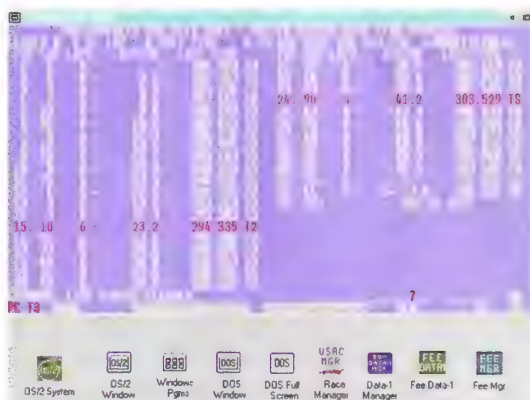
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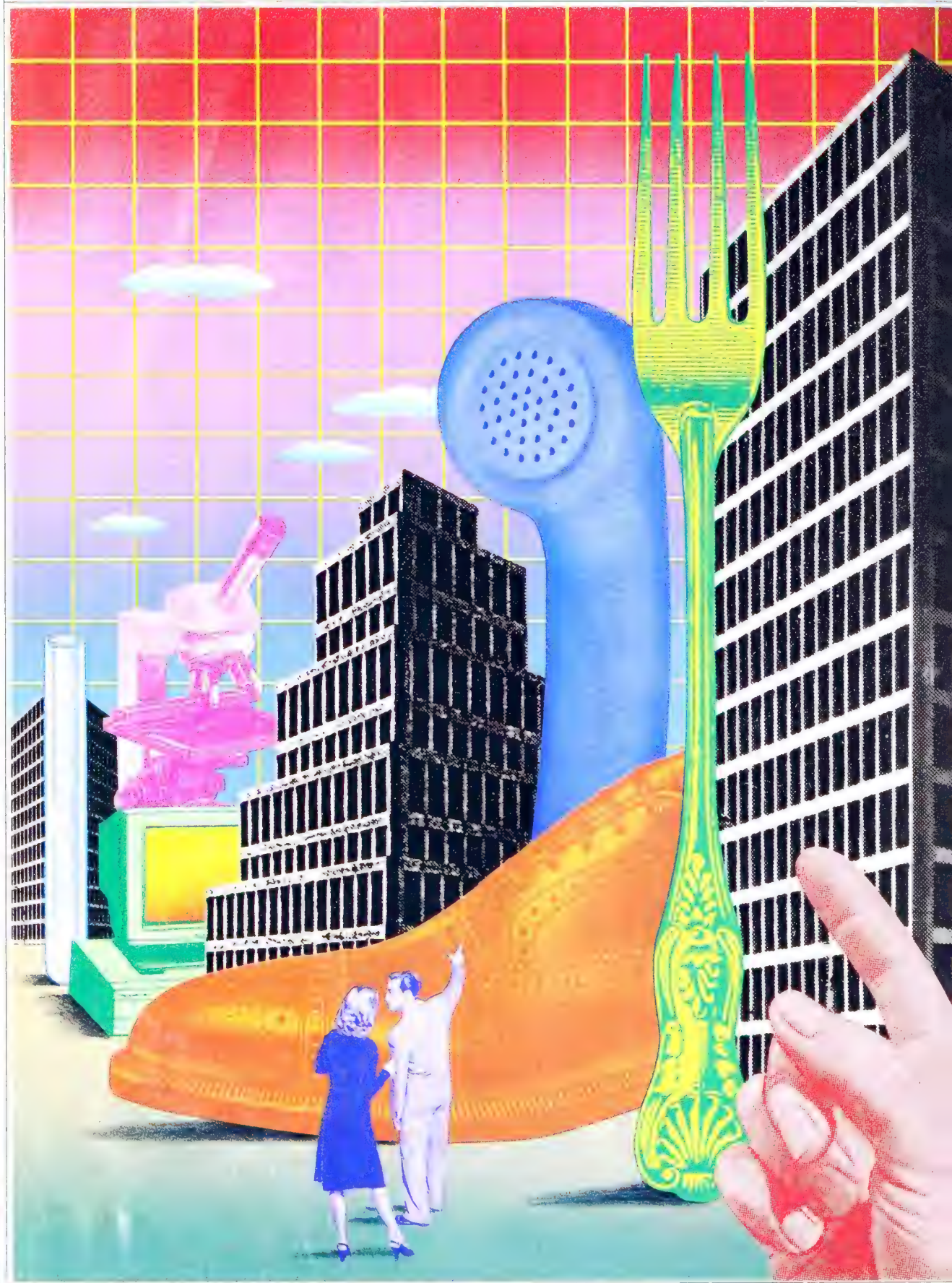
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Cover Story



HOT GROWTH COMPANIES

100 FEISTY OUTFITS WHOSE SALES ARE SOARING IN TOUGH TIMES

While other executives in the health-care industry are quaking over what they're calling the Hillary factor," Barrett Toan, chief executive of Express Scripts Inc., says he can't wait for the Administration's commendations. That's because his \$71 million mail-order pharmaceutical company is "part of the solution," Toan says. "We're going to grab new business because we save the consumer money."

Express Scripts, based in St. Louis, isn't need a booster shot from Washington. Last year, the company's profits increased 61%, to \$4.6 million, as its sales climbed 50%, to \$70.9 million. Much of the gains have come from sales to small-business health plans and health-maintenance organizations that bigger competitors, such as \$1.8 billion Medco Containment Services Inc., haven't entered with.

It's the small companies that often outmaneuver, outsmart, and just plain outperform their bigger brethren. While the rest of corporate America muddled through tough economic times, sales soared for Express Scripts, as well as for more such feisty operators on BUSINESS WEEK's 1993 Hot Growth list. Over the last three years, sales of these highfliers grew at an average annual rate of 55.4%, compared with a meager 4.2% for 400 companies that make up the Standard & Poor's industrial index. Earnings shot up at an annual average of 56.6% in the same period while profits for the

S&P group dropped 13.8%. Even better for investors, return on invested capital at the Hot Growth Companies was an average of 29.3%, vs. 9.3%.

TREND-DEFIANT. Even against such a strong field, some Hot Growth Companies were real standouts. No. 1 on this year's list is Just Toys Inc. Toy industry veterans Allan Rigberg and Rose Evangelista founded the New York-based company in 1989, and quickly scooped up key licensing agreements with such heavyweights as Walt Disney, Marvel Comics, and Hanna-Barbera. Just Toys has manufactured dozens of popular products based on characters such as the Jetsons and the Little Mermaid. And their popularity made for one impressive bottom line. Earnings climbed by a stag-

gering 110% in 1992, to \$2.5 million, while sales ballooned by 137%, to \$32.5 million.

Can these small companies maintain their momentum in the year ahead? There's reason to wonder. Slow spending by businesses and consumers means that the economy might limp along for the rest of 1993. And the Administration's plans for health-care reform and tax hikes may penalize small businesses.

Wall Street has already grown leery of certain growth stocks. Claudia Mott, director of small-cap research at Prudential Securities Inc., says investors have been pulling out of health-care stocks because of the political uncertainties. They also aren't keen on high-tech stocks, whose earnings haven't kept

pace with expectations. Because of their strong three-year financial performance, such companies dominate this year's Hot Growth list. As a result, the shares on this year's list are trading at an average of 25% below their 52-week highs. Mott says investors are starting to turn to basic industries that have been overlooked. Trucking, manufacturing, and utilities are among the favored sectors, says Mott.

Of course, some small companies do well no matter what the economy does. "Growth companies often defy industry trends because they define or even create the industries in which they compete," says Mike DiCarlo, fund manager for John Hancock Special Equities Fund, which specializes in such stocks. If you're

HOTTEST OF THE HOT

SALES

Millions of dollars*

WHOLE FOODS MARKET	\$148.6
FRANKLIN QUEST	144.5
ARROW INTERNATIONAL	140.7
QUANTUM HEALTH RESOURCES	136.7
RALLY'S	132.5

*Latest four quarters

SALES GROWTH

Average annual rate*

LONE STAR STEAKHOUSE & SALOON	298.2%
JUST TOYS	227.5
UNIVERSAL ELECTRONICS	220.8
VALUE-ADDED COMMUNICATIONS	196.5
XIRCOM	140.5

*Latest three years

EARNINGS

Millions of dollars*

PARAMETRIC TECHNOLOGY	\$30.7
INTL. FAMILY ENTERTAINMENT	29.6
FRANKLIN QUEST	22.2
ARROW INTERNATIONAL	20.7
WD-40	20.2

*Latest four quarters

EARNINGS GROWTH

Average annual rate*

LONE STAR STEAKHOUSE & SALOON	822.4%
APPLIANCE RECYCLING CTRS.	454.3
CHECKERS DRIVE-IN RESTAURANTS	443.0
CANTERBURY EDUCATIONAL SVCS.	289.0
BARRA	283.4

*Latest three years

MARKET VALUE

Millions of dollars*

PARAMETRIC TECHNOLOGY	\$1477
LONE STAR STEAKHOUSE & SALOON	735
DANEK GROUP	645
CHECKERS DRIVE-IN RESTAURANTS	562
SYNOPSISYS	488

*As of April 30

DATA: STANDARD & POOR'S
COMPUSTAT SERVICES INC.

PROFITABILITY

Average annual rate*

BESTOP	77.3%
UNIVERSAL ELECTRONICS	72.8
JUST TOYS	67.5
EXPRESS SCRIPTS	67.4
FRANKLIN QUEST	63.6

*Latest three years' return on invested capital

Cover Story

interested in scouting for some of these trend-defying highfliers, **BUSINESS WEEK** has a step-by-step guide on how to take up the hunt (gatefold, page 75).

As in years past, software makers comprise the single biggest industry group on the Hot Growth list. In all, 14 appear on the rankings. Most benefited from higher personal-computer sales as manufacturers lowered prices. Platinum Technology Inc., based in Lombard, Ill., is the group leader, at No. 21—but it's something of an exception. Surprisingly, the company excelled by making software for IBM mainframes. True, the popularity of mainframes is declining, but the switch to personal-computer networks takes time, and customers still need software to run their big computers. That's why Platinum's profits more than doubled to \$9 million last year, as

its sales soared 76%, to \$49 million.

One decidedly low-tech sector that's thriving is restaurants, thanks to stable food costs—and a certain amount of apathy about rising cholesterol counts. Five steakhouses and hamburger chains show up on this year's Hot Growth list. Lone Star Steakhouse & Saloon made it all the way to No. 2.

DEEPER POOL. Despite the economic and policy jitters, there's at least one auspicious sign for growth companies: Money isn't as tight as it has been. True, banks remain stingy, but that could change. Clinton has named a banking task force to explore ways to relax lending standards to encourage more small-business loans. The panel's recommendations are expected in June. Meanwhile, the pool of venture capital has grown as institutional investors seek better returns than

those available from the bond and stock markets. In 1992, \$2.5 billion was raised to invest in new companies, compared with \$1.3 billion in 1991, according to researcher Venture Economics.

What's more, small companies have been finding a warm welcome in the market for initial public stock offerings. Indeed, 26 of this year's Hot Growth Companies went public in the past 12 months. All told, there were a record 1,045 IPOs totaling \$24 billion last year, according to Securities Data Co.

One of those newly public companies was Express Scripts, the mail-order drug retailer. Pulling off a successful IPO in the face of a Washington whipsaw over health-care politics is proof positive that Hot Growth Companies can make their own destinies.

By Laurel Touby in New York

LONE STAR STEAKHOUSE

A SLICE OF TEXAS—FOR CARNIVORES ONLY

Jamie B. Coulter thinks everyone has the right to change his or her mind. After all, he did. When a friend proposed teaming up to start a steakhouse in 1985, he turned him down flat. Coulter, who owned several Pizza Hut franchises, was trying to get into the rent-to-own appliance business at the time. He just didn't have time for steak. But five years later, after pulling out of the appliance business, Coulter reconsidered. And he's glad he did.

Coulter, now 52, is chief executive of Lone Star Steakhouse & Saloon Inc. And the Wichita-based chain is sizzling. Ranked No. 2 on **BUSINESS WEEK**'s 1993 list of Hot Growth Companies, Lone Star has carved out a fast-growing niche in a category long on the decline as Americans have switched to eating more chicken and fish. Analyst David Geraty of Minneapolis-based Wessels, Arnold & Henderson estimates that the company's earnings could quadruple in 1993, to \$15.6 million, as revenues more than triple, to \$109 million.

URBAN AVOIDANCE. So far, the stock has also been a stellar performer. Since going public a year ago, Lone Star has seen its share price quadruple to around 25. Still, some speculators think Lone Star may not keep shining so brightly. Short-sellers have acquired 11% of the company's shares, which are trading at a lofty price-earnings ratio of 104, the highest of any company on this year's Hot Growth rankings.



■ COULTER: EMPLOYING SEASONED MANAGEMENT TO COMBAT THE COMPETITION

Why have the steakhouse and its stock soared in our cholesterol-conscious world? For starters, Lone Star has largely avoided big cities and their trendy salad-eating urbanites. Instead, the chain's 29 restaurants are located in smaller settings where a thick, juicy steak still commands respect, such as Fort Wayne, Ind., and Richmond, Va. And Lone Star serves up a slice of Texas with its meals, with country music and a Texas state flag flapping out front.

Coulter has Texas-size plans for the chain. He wants to open at least 36 more restaurants this year and a similar number in 1994. That's pretty ambitious, but most analysts believe Coulter has the experience—and the financing—to pull it off. Lone Star is debt-free, and the com-

pany raised \$41.3 million in a private placement of stock last fall.

The biggest obstacle to Lone Star is the competition. "The field is starting to fill up with imitators," says consultant Ronald Paul of Technomic Inc. But Coulter says he can handle them. Unlike rivals such as Outback Steakhouse, which fry their steaks, he points out that Lone Star grills its steak over mesquite. Another distinction, in Coulter's view, is Lone Star's seasoned management. Many of the chain's executives used to work at Coulter's Pizza Hut operations. Coulter says he has a trained team that can keep a lid on costs at a fast-growing restaurant. Given his expansion plans, those skills could come in mighty handy.

By Lois Therrien in Chicago

THE VERY PICTURE OF SUCCESS

When Robert L. Johnson, a young lobbyist for the National Cable Television Assn., was going to start a cable channel aimed at black viewers in 1979, most potential investors wouldn't give him the time of day. They felt he had no experience as a television programmer. John C. Malone thought differently, however. The head of over-based Tele-Communications Inc., the nation's largest cable operator, was intrigued by Johnson's idea that TCI coughed up \$500,000 to help him launch Black Entertainment Television Inc.

Headquartered in the tony Georgetown section of Washington, BET has been on a roll ever since. By feeding a steady diet of music videos, news, and commercials to black audiences, BET has thrived through a recession that has devastated other media companies. How? BET is the only programmer primarily serving black viewers, a lucrative market. In the fiscal year ending July 1991, analysts expect BET's revenues to grow 10%, to \$68 million, while profits would rise about 18%, to \$14 million. Not that BET hasn't hit the occasional rough patch. Last October, its chief fi-



■ JOHNSON: REACHING 36 MILLION HOUSEHOLDS WITH A MIX OF MUSIC, NEWS, AND INFOMERCIALS

financial officer and comptroller were fired for allegedly embezzling \$700,000. The company won't comment on the episode, which is being investigated by the U.S. Attorney in Washington. The two executives weren't available for comment. Another potential setback: the new cable-TV regulations adopted by Congress in April, which will force cable operators to roll back the rates they charge households by about 10%. Analysts fear that operators might cut back

the amount they spend on programming provided by BET. Roughly half of BET's revenues come from such operator fees.

RADIO PLAN. Still, Johnson, now 46, is undaunted. He hopes to transform BET into a media conglomerate. In addition to its cable-TV network, which reaches 36 million households, BET has also pushed into print. Johnson launched *Young Sisters & Brothers*, a monthly magazine aimed at black teenagers, in 1991. *YSB* is one of the hottest new properties in the industry: Its circulation is already at 80,000, and it was a finalist in two categories in this year's National Magazine Awards. Later this year, Johnson plans to launch BET Radio Network, which will supply music and news to urban stations.

And the quest for new business doesn't stop there. Earlier this year, Johnson began BET Direct to market BET's own products, such as a skin-care line for black women. Pay-per-view concerts or movies aimed at black audiences may follow. "I'd like BET to have the same perception in the black community that Disney has in the general community," says Johnson. Judging by his accomplishments, BET's boss may someday get his wish.

By Mark Lewyn in Washington

FIRST TEAM SPORTS

A FLEET NO. 2 IN THE ROLLERBLADE DERBY

It's spring, and Lycra-clad young athletes are out in force, Ultrawheeling across pavements everywhere. O.K., the sport is really known as Rollerblading for the company that pioneered Rollerblade Inc. But that hasn't stopped First Team Sports Inc. from fitting handsomely from the fast-growing market for in-line roller skates. The No. 2 U.S. skatemaker is competing head-on with Rollerblade. True, Rollerblade's \$110 million in revenues dwarfs those of First Team and the 30 other in-line skating competitors. But First Team CEO David G. Soderquist, 44, and Vice-President John J. Egart, 43, who founded the company in 1986, still see opportunity in Rollerblade's tracks. So far, the former sporting-goods businessmen have been right. First Team's sales rose 41%, to \$38.2 million in fiscal 1991, ended in February. Profits jumped



■ SODERQUIST AND EGART: GETTING READY TO ROLL IN EUROPE AND ASIA

56%, to \$3 million. As a result, First Team has skated to No. 15 on BUSINESS WEEK's 1993 Hot Growth list.

To be sure, it hit a few bumps along the way. Some stockholders are still angry at Soderquist, Egart, and other executives for selling stock shortly before

the company announced flat sales growth at the end of 1991. The executives insist they merely wanted to recoup some of their initial investment in First Team. Another problem: Rollerblade filed a complaint in February with the U.S. International Trade Commis-

Cover Story

sion against First Team and other competitors that import skate parts, alleging patent infringement.

Most analysts say First Team can easily settle its legal dispute with Rollerblade by giving its competitor a licensing fee or modifying its skate design. Neither would cause a big hit to earnings. Instead, the biggest challenge, they say, will be expanding First Team's market

share in the face of Rollerblade's lead.

With that in mind, the Mounds View (Minn.) company has signed up big names such as hockey star Wayne Gretzky to hawk its products. First Team is also moving overseas. It recently negotiated deals with distributors in Europe and Asia. "Five years from now, we should be virtually in every continent," boasts Egart.

One hitch in First Team's plans: speed delivery to customers, it has begun shifting manufacturing from Taiwan to Minnesota. But the move is taking longer than expected, and the order backlog is growing. Still, the two executives reckon that a few scraped knees may be what it takes to keep First Team rolling.

By David Greising in Chicago

On Assignment

THESE TEMPS DON'T TYPE, BUT THEY'RE HANDY IN THE LAB

Hardly a typical turnaround artist, H. Tom Buelter didn't build his career by roaming from one ailing company to the next. Instead, he spent six years at Kelly Services Inc., the temp agency. He eventually rose through the ranks to become chief operating officer of Kelly's home-care division. That was exactly the kind of steady, predictable record that Sierra Ventures, a venture capital group, was looking for when it hired Buelter to run On Assignment Inc. in 1989.

Founded by a couple of chemists, the Canoga Park (Calif.) company started out in 1985, providing scientists on a temporary basis to companies that needed skilled staff for short-term projects. The concept worked fine when it was first put into practice. The problem was that On Assignment kept expanding into new areas, such as consulting and recruiting. Costs soared, and so did losses. In 1989, the red ink amounted to \$1.5 million on sales of just \$7 million.



BUELTER: AFTER SCIENTISTS, HIS NEXT TEMP EXPERIMENT MAY BE WITH LAWYERS

Buelter, now 52, quickly got On Assignment back on track. He closed down the consulting and recruiting businesses. Then he went to work finding new customers for the temp business. He didn't have to look far. By 1990, many companies already had downsized—and many jumped at the chance to hire temps to perform some of the functions of their laid-off staff. That same year, On Assignment turned profitable again.

Nowadays, the company has 27 offices, stretching from Seattle to Miami.

Its client list includes such corporate heavyweights as Hewlett-Packard, Exxon, and Johnson & Johnson. Analyst Kevin Clark of Advest Inc. estimates 1993 earnings will rise 39%, to \$2.5 million, as revenues climb 17%, to \$38.1 million. That kind of performance helps earn On Assignment the No. 22 spot in this year's Hot Growth list.

LABEL TRUTHS. To serve its clients, On Assignment looks for chemists and biologists who have worked at least two years in a lab. The company has a temporary work force of more than 1,000 scientists at its disposal. Many are involved in product testing. At food companies, for instance, temps are involved in isolating ingredients to verify that new federal labeling laws are met.

While he intends to stick with On Assignment's temp-agency formula, Buelter says he wants to expand into such areas as health care and legal services—possibly later this year. "It's a very exciting strategy," says Buelter. He argues that a temporary lawyer can handle such legal matters as contract work and small lawsuits—and do it for less expensively than either a staff attorney or outside counsel. In this era of corporate cost-cutting, Buelter hopes to make that a powerful selling point.

By Becky M. Johnson in Los Angeles



YOUSSEFZADEH: SITTING PRETTY, EVEN AS RIVALS FOLLOW HIM OVERSEAS

SATELLITE TECHNOLOGY

BEAMING ABROAD TO STOP THE STATIC AT HOME

Five years ago, Emil Youssefzadeh's company was close to bankruptcy. Satellite Technology Management Inc. was founded in 1982 to provide companies with private satellite networks to move data between headquarters and branches in remote areas. But before long, big competitors such as GTE Corp. and Hughes Aircraft Co. were chasing the same market. By 1987, Youssefzadeh's privately held company was in trouble. Close to defaulting on \$4 million in debt, he even made out a check for

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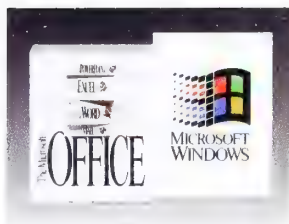
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But before he handed the check over, Youssefzadeh had an inspiration. Just because STM was getting hammered in the U.S. didn't mean it couldn't find business abroad. Foreign companies were looking for similar communications services. And the competition wasn't as fierce. Creditors of the Costa Mesa (Calif.) company also bought the idea and agreed to defer debt payments.

FORGING TIES. Now they feel lucky that they did. These days, 90% of STM's business comes from overseas customers. In Italy, for example, its satellite dishes and software technology link Banca D'Italia headquarters with its branches. And in Mexico, STM enables Organización Editorial Mexicana to exchange data with its 68 newspapers. Even better, STM is making money. The company

turned profitable in 1989. Last year, net profits rose 29%, to \$3.6 million, as revenues soared 54%, to \$19 million.

Those results didn't come easily. Youssefzadeh, now 40, an Iranian-born electrical engineer who used to work at Hughes' satellite group, labored hard to establish alliances with overseas distributors willing to market STM's products. The company now has 17 such partners in 21 foreign countries that sell and service STM's wares.

STM's technology was also a big selling point with foreign clients. The company offered the ability to transmit private voice conversations along with the streams of data. That's not important in the U.S., which has a well-established telephone infrastructure and fierce competition among long-distance carriers. "But when we started going overseas, it

became obvious that voice capability was a prerequisite," Youssefzadeh says.

Indeed, some customers buy STM's satellite software and earth stations just to extend their phone systems to remote areas. STM recently installed an \$8 million system so Philippines Long Distance Telephone Co. could link outlying islands. Among STM's competitors, Hughes Network Systems Inc. can handle phone calls as well as data.

With the U.S. market's explosive growth slowing, the competitors that most forced STM out of business a few years ago are starting to look overseas too. But with an established market share and satisfied customers, STM feels better prepared for the onslaught. Youssefzadeh doesn't worry as much about the big boys these days.

By Larry Armstrong in Costa Mesa

IMRS

POWER PROGRAMS TO WARM A CFO'S HEART

James A. Perakis, chief executive of IMRS Inc., says there's only one measure of a good time in business. "It's no fun unless you're growing," says the CEO of the Stamford (Conn.) maker of financial-management software. And judging by IMRS' results—earnings jumped 58%, to \$4.2 million, last year, while sales rose 34%, to \$45 million—Perakis is having plenty of fun.

Founded in 1981 to develop and market powerful software that lets companies replace expensive mainframes with personal computers, IMRS is riding the wave of the PC revolution. A growing number of companies are trading in their outdated mainframes for less costly networks of small computers. IMRS—No. 52 on *BUSINESS WEEK's* Hot Growth list—has just the programs to make the transition work. Its biggest seller, Micro Control, allows chief financial officers to call up status reports throughout their corporations within minutes, just as swiftly as they can on mainframes.

QUICK RESPONSE. Such complex programs don't come cheap. Packages start at upwards of \$100,000, and prices can go as high as \$1 million, depending partly on the size of the PC network. The price also includes technical consulting to help companies make the transition to PCs. Nowadays, IMRS' 1,000-plus customer base includes global giants such as PepsiCo and Sony. "They look to us for new technology," says Perakis, 49, who took over as CEO in 1985 from IMRS



■ PERAKIS: THANKS TO AN ACQUISITION, IMRS WILL ADD NEW ACCOUNTING PRODUCTS TO FIGHT COMPETITORS

founder and former CEO Robert W. Thomson, who retired. Perakis previously headed a software unit of Chase Manhattan Corp.

Of course, competitors are starting to line up. Comshare Inc., based in Ann Arbor, Mich., is marketing a product similar to Micro Control. "Their product is a little quicker, but we probably have a little more functionality, such as foreign currency translations," says Ted Dacko, a Comshare sales director.

Perakis hopes to maintain his company's growth with new software packages. To help, IMRS acquired technology from Micro Systems Corp. in February for \$2.6 million. As a result of the purchase, IMRS posted a loss of \$821,000 in the latest quarter ended March, vs. a profit of \$499,000 a year ago. But most analysts feel the company will gain its momentum. Analyst Peter Rogoff of Robertson, Stephens & Co. expects that profits will rise 72%, to \$7.6 million, the fiscal year ending in June, 1994, as revenues climb 27%, to \$76.5 million.

Perakis believes the hit was well worth it. By incorporating more accounting technology, IMRS will eventually offer software able to monitor a company's

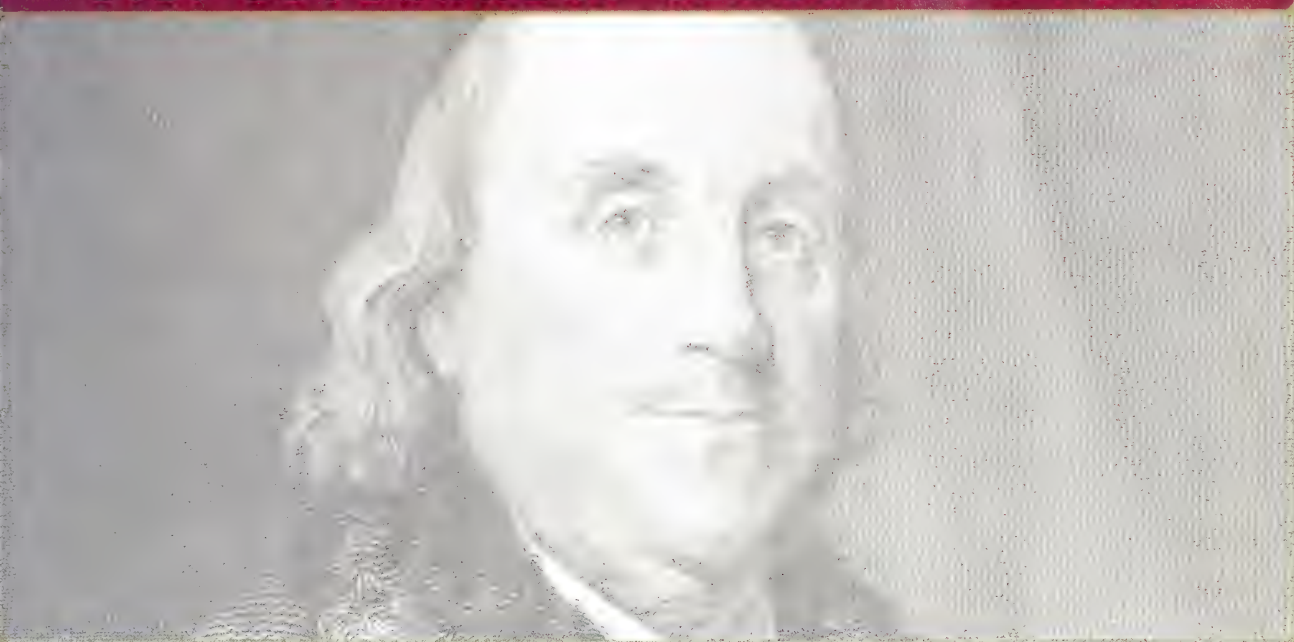
every financial transaction. "We'll have a new set of products that will put us into an enormous growth market, probably for the next decade," Perakis says.

That's a prospect that delights Perakis. But he still hopes IMRS won't lose its small-company ways. "To succeed in the software business, you have to remain fast-moving and responsive to the market," he says. It's an attitude that far has served IMRS well.

By Julie Tilsner in Stamford

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LEADERS AND LAGGARDS FROM THE CLASS OF '91

Many that sizzled fizzled, while a few zoomed out of sight

Back in the spring of 1991, Aldus Corp. was a highflier. A **BUSINESS WEEK** Hot Growth Company for four straight years, the Seattle-based computer software maker offered trailblazing desktop publishing software that seemed to be the answer to many small publishers' prayers. The company's sales growth in the four quarters that ended in March, 1991, was a remarkable 150%, while earnings grew by 26%.

Just as remarkable was Aldus' change in fortunes scarcely a year later. Aggressive competitors, such as Quark Inc., began to catch up with its products, and Aldus couldn't quite keep ahead. Indeed, a new Windows-compatible Aldus software package fizzled with customers, who found it hard to use. And while sales inched forward 4% in 1992, to \$174.2 million, profits tumbled 70%, to \$6.8 million, as Aldus spent heavily to develop new products and markets.

TOUGH LESSONS. Worse for investors, Aldus' stock fell apart. After hitting a high of almost 60 in April, 1991, Aldus shares have plummeted to around 15. Since 1991, Aldus has produced a negative total return of 66.7% (table). "The market is totally unforgiving. If you stumble, they go elsewhere," sighs Aldus Chief Executive Paul Brainerd. "There's no in-between."

That's a lesson investors would do well to bear in mind, too. True, emerging growth stocks are alluring to stock-pickers trying to divine which young company will grow up to be the next Wal-Mart Stores Inc. or Intel Corp. But the risks are as high as the potential rewards.

The companies on **BUSINESS WEEK**'s 1991 Hot Growth list are a case in point. As a group, the Class of 1991 generated a negative total return of 8% in the past two years. By comparison, the total return of the Standard & Poor's industrial index was 28%. And on average,

small-company mutual funds saw a gain of 35% for the same two-year period, according to Morningstar Inc. **BUSINESS WEEK**'s 1991 list was heavily weighted with health-care and technology companies, whose stocks took a beating.

PAYOFFS. Of course, there were successes. American Power Conversion Corp. is the clear class valedictorian. The West Kingston (R. I.) company makes electronic devices to protect personal computers and PC networks from dangerous power surges. In the past two years, its stock has soared by 517%, to about 32. The payoff for investors has been heady: a total return of 2,080% since American Power's 1989 debut on the Hot Growth list.

Don't look for American Power on this year's ranking. Sales in 1992 surged 68%, to \$157.5 million, pushing the company over the \$150 million cap. In 1993, sales should swell an additional 52%, to \$240 million, says analyst Rick Martin at

Chicago Corp. "This is the ultimate frills company," says Martin. "They're the Wal-Mart of their business."

If American Power Conversion won the Class of 1991's star, then Medical Imaging Centers of America Inc. (MIC) was the class goat. The San Diego-based company's medical diagnostic centers have suffered as health insurers crack down on expensive procedures and federal regulators nixed payments to physicians for referring patients.

All that has put MICA in a bleak position. Sales slipped 4% last year, to \$10 million, and it hasn't turned a profit since the second quarter of 1991. Its stock has tumbled 92% and now trades

at about 1. "We were a fast-track company. We stumbled," says MICA founder and CEO Antone J. Lazos. Says Joseph E. Millsap, analyst with Morgan Keegan & Co. in Memphis: "We are not even offering projections for MICA."

ROCKY. One erstwhile Hot Growth Company that lost out is Cascade International Inc. The retailer of apparel and cosmetics was liquidated last year after its CEO vanished and regulators found Cascade had lied about

how many stores it had, as well as sales figures. Four other companies on **BUSINESS WEEK**'s 1991 list also don't exist any more—but they were bought out by competitors.

Even though many in the Class

1991 have had a rocky time, former Hot Growth Companies have been known to make comebacks. That's what Aldus' Brainerd aims to do. He's launching the fifth upgrade of Aldus' PageMaker program in June, cutting costs and homing in on a few key areas, especially professional graphics software. "We'll focus on what we've got to do each quarter to get back being successful," Brainerd vows. For scrap entrepreneurs, a crash landing doesn't mean having to stay earthbound forever.

By Elizabeth Lesly
New York



BUSINESS WEEK'S CLASS OF 1991

THE WINNERS...

Company	Two-year total return
AMERICAN POWER CONVERSION	505.6%
ELECTRONIC ARTS	472.8
CISCO SYSTEMS	454.6
GB FOODS	319.9
THREE-FIVE SYSTEMS	263.6
SOUTHERN ELECTRONICS	237.5
TRANSMEDIA NETWORK	205.5
ALLOU HEALTH & BEAUTY CARE	151.9
BENCHMARK ELECTRONICS	128.1
LATTICE SEMICONDUCTOR	126.6

Calculated on basis of stock price as of Apr. 30; excludes companies no longer trading

...AND THE LOSERS

Company	Two-year total return
MEDICAL IMAGING CENTERS OF AMERICA	-91.7%
SIERRA TUCSON COS.	-81.1
KNOWLEDGEWARE	-74.0
DIGITAL SYSTEMS INTL.	-72.7
IPL SYSTEMS	-72.4
UNIVERSAL INTL.	-70.3
HANDEX ENVIRONMENTAL RECOVERY	-68.4
PUROFLOW	-66.7
ALDUS	-66.7
EASEL	-66.3

DATA: STANDARD & POOR'S COMPUSTAT SERVICE INC

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THE BEST SMALL COMPANIES

To win a position in this table, a company must excel in three ways. The selection process begins by ranking companies according to their three-year results in sales growth, earnings growth, and return on invested capital. The ranks that appear in the table are calculated from these numbers. A company's composite rank is the sum of 0.5 times its rank in return on total capital, plus 0.25 times each of its growth ranks.

Standard & Poor's Compustat Services Inc., which has computerized financial data on 7,500 publicly traded corporations, provided the pool of companies from which winners were selected. To qualify, a company has to have annual sales of more than \$10 million and

less than \$150 million, a current market value greater than \$1 million, a current stock price greater than \$1, and be actively traded. Banks, insurers, real estate firms, and utilities are excluded. So are companies with sharp declines in current financial results, as well as companies where other developments raise questions about future prospects.

Sales and earnings are the latest available through the most recent 12 months. Earnings include net income from continuing operations, before gains or losses from extraordinary items.

Increases in sales and profits are calculated using the least-squares method. If results for the earliest year are negative, the average

is for two years.

Return on capital is earnings plus minority interests and tax-adjusted interest expense, expressed as a percent of total debt and equity. For ranking purposes, the maximum allowable annual return on invested capital is 100%. Companies that have made substantial accounting restatements, long-term returns may be averaged for two years instead of three years.

Time periods vary according to the month of a company's fiscal yearend. Profitability growth are calculated through the most recent fiscal year.

Stock price data are as of Apr. 30, 1993. A ● indicates that a company also appeared in last year's rankings (BW—Apr. 25, 1992).

COMPANY (STOCK SYMBOL)	CURRENT RESULTS		THREE-YEAR AVERAGES			INVESTMENT DATA		
	SALES (\$ MIL.)	EARNINGS (\$ MIL.)	INCREASE % SALES	PROFITS	RETURN ON CAPITAL	STOCK PRICE 52 WEEK HIGH-LOW	P/E RATIO	MARKET VALUE (\$ MIL.)
1 JUST TOYS (JUS) New York City 212 645-6335 The department store makes and markets are licensed by the likes of Disney	32.5	3.5	227.5	242.6	67.5	19—11	18	11
2 LONE STAR STEAKHOUSE & SALOON (STAR) Wichita 316 264-8899 Formerly Lone Star Steakhouse & Saloon, it is now a hand-out daily and mesquite grilled, head for Lone Star	44.7	6.7	298.2	822.4	49.0	26—5	24	104
3 VALUE-ADDED COMMUNIS. (VACI) Oakbrook Terrace, Ill. 708 628-6606 Call-processing equipment that automates collect and card calls	49.2	2.8	196.5	138.4	60.2	11—4	5	14
4 XIRCOM (XIRC) Calabasas, Calif. 818 878-7600 Makes products that link laptops and notebooks to networks	67.5	7.3	140.5	126.0	49.9	16—7	10	21
5 FRANKLIN QUEST (FNQ) Salt Lake City 801 975-1776 A time-management trainer whose day planners are its biggest business	144.5	22.2	57.5	113.1	63.6	25—15	23	21
6 TRIDENT MICROSYSTEMS (TRID) Mountain View, Calif. 415 691-9211 Improve your resolution: It designs and manufactures VGA graphic chips	83.0	12.8	101.6	163.1	36.0	21—10	12	11
7 UNIVERSAL ELECTRONICS (UEIC) Twinsburg, Ohio 216 487-1110 Fast-forward: Makers of universal remote controls for consumer electronics	50.8	2.6	220.8	56.1	72.8	26—14	24	32
8 MEDICAL DIAGNOSTICS (MDIX) Burlington, Mass. 617 270-9560 High-tech help. Provider of magnetic-resonance imaging services	18.3	2.3	37.1	238.6	55.8	7—3	4	7
9 EXPRESS SCRIPTS (ESRX) St. Louis 314 770-1666 Sending relief by post: It sells mail-order prescription drugs	82.6	5.4	76.7	66.3	67.4	35—13	26	33
10 CALIFORNIA AMPLIFIER (CAMP) Camarillo, Calif. 805 987-9000 It manufactures components for satellite-dish systems	35.8	3.1	48.2	141.7	46.1	10—6	8	13
11 BESTOP (BTOP) Broomfield, Colo. 303 465-1755 It has a soft spot for soft tops that go on sports-utility vehicles	35.9	2.8	15.9	151.1	77.3	12—5	10	10
12 FINISH LINE (FINL) Indianapolis 317 899-1022 Its chain of athletic footwear and clothing stores is in top shape	121.9	11.6	25.2	117.3	60.7	23—9	16	13
13 FRESH CHOICE (SALD) Santa Clara, Calif. 408 986-8661 Stay healthy at these all-you-can-eat soup, salad, and muffin bars	40.9	1.7	71.6	76.2	38.9	33—21	25	55
14 TRANSMEDIA NETWORK (TMNI) North Miami, Fla. 305 892-3300 ● Dinner anyone? Its cards get you a 25% discount at 1,900 restaurants	28.2	2.0	76.4	167.1	26.3	20—10	14	28
15 FIRST TEAM SPORTS (FTSP) Minneapolis 612 780-4454 Derby time: Makers and distributors of roller skates and accessories	38.2	3.0	119.2	103.3	27.6	17—8	12	14
16 SCORE BOARD (BSBL) Cherry Hill, N. J. 609 354-9000 ● Baseball cards are its game. Plus other sports memorabilia	75.4	8.1	56.9	87.7	33.7	34—12	17	11
17 SATELLITE TECHNOLOGY MGMT. (STMI) Costa Mesa, Calif. 714 557-2400 Manufacturer of communications ground equipment	19.1	3.4	49.4	58.8	49.7	14—7	9	13
18 DANEK GROUP (DNKG) Memphis 901 396-2695 ● Manufacturer of orthopedic equipment for doctors and hospitals	83.2	15.1	71.6	93.6	29.4	45—23	37	43



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THE BEST SMALL GROWTH COMPANIES

RANK	COMPANY (STOCK SYMBOL)	CURRENT RESULTS		THREE-YEAR AVERAGES			INVESTMENT DATA			
		SALES \$ MIL.	EARNINGS \$ MIL.	INCREASE (%) SALES	PROFITS	RETURN ON CAPITAL	STOCK PRICE		P/E RATIO	MARKET VALUE \$ MIL.
							52-WEEK HIGH LOW	RECENT		
19	HOMECARE MANAGEMENT (HMIS) Ronkonkoma, N.Y. 516 981-0034 Provides drug therapy for organ-transplant recipients	22.2	1.8	59.9	92.5	29.5	15—5	10	31	6
20	TRICONEX (TCNX) Irvine, Calif. 714 768-3709 Manufacturers of safety shutdown system for oil refineries	29.8	4.8	60.2	232.4	24.3	22—9	13	14	6
21	PLATINUM TECHNOLOGY (PLAT) Lombard, Ill. 708 620-5000 ● Designs software compatible with IBM mainframes	49.0	9.3	79.9	104.1	26.0	25—11	14	33	27
22	ON ASSIGNMENT (ASGN) Canoga Park, Calif. 818 716-8990 Test-tube temps. A service that places scientists with labs in need	34.6	2.1	33.9	141.1	30.0	15—7	12	27	5
23	STEPHAN (STCP) Fort Lauderdale, Fla. 305 971-0600 Three lines of hair, beauty, and barber products	14.9	2.6	49.8	92.4	30.2	18—10	15	20	4
24	DATA RACE (RACE) San Antonio 512 558-1900 It dials "M" for modems, both internal and external	39.2	4.6	72.7	198.6	21.8	31—14	20	17	8
25	UNIVERSAL STANDARD MED. LABS (USML) Southfield, Mich. 313 353-1450 Testing, testing: Clinical laboratory	51.8	4.1	25.6	69.3	55.6	17—8	12	16	7
26	CITATION COMPUTER SYSTEMS (CITA) St. Louis 314 428-2900 It cuts out paperwork: Develops information systems for hospitals and labs	17.4	2.1	29.0	81.6	45.5	16—7	11	15	3
27	PARAMETRIC TECHNOLOGY (PMT) Waltham, Mass. 617 894-7111 ● Software for mechanical and design engineers. UNIX-compatible	121.6	30.7	96.4	130.6	23.0	32—15	28	52	147
28	AMBER'S STORES (ABRS) Dallas 214 349-5300 Chock-full of fun stuff for hobbies, gifts, and crafts	42.2	2.7	40.0	249.0	24.5	19—7	13	19	4
29	JEAN PHILIPPE FRAGRANCES (JEAN) New York City 212 983-2640 ● Distributors of designer-knockoff fragrances and the Jordache line	43.7	4.3	111.8	103.8	23.4	18—7	14	28	12
30	DAY RUNNER (DAYR) Fullerton, Calif. 714 680-3500 Get it together with their personal organizers	70.7	4.4	39.5	24.5	51.8	20—8	9	12	4
31	BET HOLDINGS (BTV) Washington, D. C. 202 337-5260 That's entertainment! Cable TV networks for sports, music, and information	68.8	12.7	40.2	47.7	40.4	19—13	17	28	36
32	CHECKERS DRIVE-IN RESTAURANTS (CHKR) Clearwater, Fla. 813 441-3500 ● The name says it all: Drive in, pig out	105.7	11.9	110.0	443.0	18.6	26—11	19	45	56
33	SPARTAN MOTORS (SPAR) Charlotte, Mich. 517 543-6400 ● Assembles motors and chassis for vehicles, motor homes, and fire engines	123.3	9.2	54.3	104.0	24.6	30—13	26	24	22
34	GBC TECHNOLOGIES (GBCT) Berlin, N. J. 609 767-2500 Wholesaler of microcomputer products, especially network packages	87.9	2.5	31.4	46.3	48.6	20—11	12	11	3
35	SYNOPSIS (SNPS) Mountain View, Calif. 415 962-5000 Software for designing computer chips: Synthesis, simulation, and testing	81.8	9.5	103.2	186.9	19.1	39—22	35	58	48
36	IQ SOFTWARE (IQSW) Norcross, Ga. 404 446-8880 Data bonanza! Tools for report writers	15.2	2.5	45.8	50.5	32.3	19—8	12	17	4
37	INTL. AIRLINE SUPPORT GROUP (IASG) Miami 305 593-2658 The airlines drop by to purchase aircraft, parts, and related services	36.4	2.6	50.1	64.3	28.0	8—4	5	8	2
38	CATALINA MARKETING (POS) Anaheim, Calif. 714 956-6600 Its scanning systems spurt coupons at check-out counters	68.6	8.5	42.2	153.9	23.7	43—24	35	41	32
39	PHYSICIANS CLINICAL LAB. (PCLI) Sacramento, Calif. 916 444-3500 It provides medical lab services through a network of patient service centers	40.7	3.6	37.6	49.9	32.5	18—8	13	18	7
40	U. S. ROBOTICS (USRX) Skokie, Ill. 708 982-5010 ● Talk to me. Manufactures data communications products, such as modems	131.1	12.9	43.4	75.4	27.2	26—13	21	18	20
41	SALEM SPORTSWEAR (SALM) Hudson, N. H. 603 886-1285 Dressing the fans: Their casual wear bears team logos	131.3	8.1	59.0	23.0	28.5	13—7	10	11	9
42	LONGHORN STEAKS (LOHO) Atlanta 404 399-9595 Juicy business. Casual steakhouses, Texas honky-tonk style	54.2	3.4	21.3	123.5	28.0	26—14	19	30	10
43	ZEBRA TECHNOLOGIES (ZBRA) Vernon Hills, Ill. 708 634-6700 ● Bar-code printers and specialized labels	64.5	13.2	24.6	10.0	49.2	31—15	30	28	36
44	MEDICUS SYSTEMS (MECS) Evanston, Ill. 708 570-7500 Case by case. Patient-focused software for the health-care industry	22.6	2.5	21.8	58.4	36.3	13—8	9	19	4
45	TSENG LABS (TSNG) Newtown, Pa. 215 968-0502 ● Looking sharp! Their chips improve PC video/graphic performance	76.8	14.5	36.6	41.9	30.8	23—10	16	21	31
46	AMERICAN BUSINESS INFORMATION (ABII) Omaha 402 593-4500 They've got the lowdown: Compilers of direct marketing information	49.9	9.7	31.3	28.9	34.0	19—10	12	17	16
47	AG SERVICES OF AMERICA (AGSV) Cedar Falls, Iowa 319 277-0261 Farmers are financed with loans and supplied with farming products	54.6	1.9	32.5	87.1	25.5	18—10	16	15	2



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THE BEST SMALL GROWTH COMPANIES

RANK	COMPANY (STOCK SYMBOL)	CURRENT RESULTS		THREE-YEAR AVERAGES			INVESTMENT DATA			
		SALES \$ MIL.	EARNINGS \$ MIL.	INCREASE (%) SALES	PROFITS	RETURN ON CAPITAL	STOCK PRICE		P/E RATIO	MARKET VALUE \$ MIL.
							52-WEEK HIGH LOW	RECENT		
48	APPLIANCE RECYCLING CTRS. OF AMER. (ARCI) Minneapolis 612 331-1000 They taketh away: Collection, processing, and recycling of appliances	15.8	0.8	107.2	454.3	10.9	20—9	14	67	48
49	CHARTER GOLF (CGOL) Carlsbad, Calif. 619 438-6610 For men and women, golf apparel that fits to a tee	31.6	2.2	136.1	181.5	12.4	9—3	8	37	87
50	UTAH MEDICAL PRODUCTS (UTMD) Midvale, Utah 801 566-1200 ● Manufacturer of blood-pressure monitors for critical care	37.0	7.3	26.2	36.3	32.0	15—7	10	17	120
51	INTL. FAMILY ENTERTAINMENT (FAM) Virginia Beach, Va. 804 523-7301 The Family Channel—and MTM. It's both producer and distributor of shows	131.7	29.6	18.7	43.3	35.2	16—9	15	13	318
52	IMRS (IMRS) Stamford, Conn. 203 321-3500 ● Financial software: Development, sale, and support is its business	55.4	3.5	54.7	113.1	19.8	26—11	15	30	100
53	SONIC (SONC) Oklahoma City 405 232-4334 ● The Sunbelt is its territory, the drive-in American hamburger its specialty	74.7	7.7	24.5	169.1	21.6	32—19	22	23	174
54	INTEGRATED CIRCUIT SYSTEMS (ICST) Norristown, Pa. 215 666-1900 ● Standard as well as tailor-made digital integrated circuits	63.9	9.2	49.9	202.5	17.4	25—7	14	14	143
55	BALLARD MEDICAL PRODUCTS (BMED) Draper, Utah 801 572-6800 ● Take a deep breath: Medical, mainly respiratory, devices	57.0	16.5	33.9	50.6	27.6	25—12	15	29	393
56	U. S. HOMECARE (USHO) Hartsdale, N. Y. 914 946-9601 ● House calls for home health-care, such as nursing and infusion therapy	80.9	4.5	48.4	173.0	18.2	12—7	9	17	74
57	RELIFE (RELF) Birmingham, Ala. 205 870-8099 In- and out-patient rehabilitation facilities for the disabled and injured	70.0	5.6	65.9	174.9	13.2	18—10	11	14	63
58	QUANTUM HEALTH RESOURCES (QHRI) Orange, Calif. 714 750-1610 ● Provides home care for the chronically ill and support for their families	136.7	10.4	71.9	176.8	12.0	30—17	21	29	280
59	BGS SYSTEMS (BGSS) Waltham, Mass. 617 891-0000 ● Software for managing and evaluating computer systems	30.3	6.7	14.5	18.2	37.8	43—35	37	17	114
60	WD-40 (WDFC) San Diego 619 275-1400 Grease lightning! Manufacturers and sellers of lubricant oil	104.1	20.2	5.3	4.1	39.0	50—38	46	17	350
61	VMARK SOFTWARE (VMRK) Framingham, Mass. 508 879-3311 Develops and services software for data-base management	21.3	3.2	65.0	156.6	13.9	13—5	11	21	63
62	XYPLEX (XPLX) Boxborough, Mass. 508 264-9900 ● Manufactures network communication products	64.0	8.3	44.7	72.5	21.4	28—16	24	18	139
63	NATURAL WONDER (NATW) Union City, Calif. 510 429-9900 Environmentally oriented, specialty stores for nature and science gifts	87.6	5.6	106.3	130.1	11.8	28—13	15	20	100
64	JACK HENRY & ASSOCIATES (JKHY) Monett, Mo. 417 235-6652 Software for banks and other financial institutions	30.1	4.8	28.1	103.8	21.4	13—6	12	22	103
65	INTERVISUAL BOOKS (IVBK) Santa Monica, Calif. 310 396-8708 Another dimension to reading. Producers of children's pop-up books	22.1	1.1	31.7	97.6	21.1	5—3	4	18	17
66	COMPUTER NETWORK TECH. (CMNT) Maple Grove, Minn. 612 550-8000 ● Builds high-speed networks for large-scale computer systems	37.0	3.8	49.8	129.6	17.0	7—3	6	26	90
67	TETRA TECH (WATR) Pasadena, Calif. 818 449-6400 Environmental engineers and consultants	47.4	3.7	16.2	165.3	20.5	19—10	19	27	97
68	HEALTHINFUSION (HINF) Miami 305 267-1177 Home intravenous therapy of any kind—chemo, nutritional, antibiotic	49.7	6.3	118.8	66.4	17.7	16—6	8	11	69
69	CHIPCOM (CHPM) Southborough, Mass. 508 460-8900 ● It connects with computer networking products	101.3	9.3	71.9	108.2	14.0	35—18	32	31	280
70	BARRA (BARZ) Berkeley, Calif. 510 548-5442 Software for investment decision-making, mostly for risk analysis	36.8	3.7	21.0	283.4	18.8	11—6	9	19	70
71	PSC (PSCX) Webster, N. Y. 716 265-1600 Manufactures laser scanners and other computer equipment	37.4	4.0	41.1	129.2	17.7	14—6	7	13	50
72	ZOLL MEDICAL (ZOLL) Woburn, Mass. 617 933-9150 It makes and markets cardiac-resuscitation devices	27.8	2.6	33.3	254.5	14.5	28—11	20	43	116
73	AMERICAN RESTAURANT PARTNERS (RMC) Wichita 316 684-5119 Extra cheese please: Owners and operators of 58 Pizza Huts	34.6	3.4	9.4	24.7	30.9	13—8	12	15	49
74	NCI BUILDING SYSTEMS (BLDG) Houston 713 466-7788 From raw steel materials, it fashions pre-engineered metal buildings	90.4	4.0	24.3	19.9	28.4	17—8	17	17	68
75	DIGI INTERNATIONAL (DGII) Eden Prairie, Minn. 612 943-9020 Makers of data communications products	70.3	13.2	59.8	59.3	19.6	26—12	18	19	249
76	PREMIERE RADIO NETWORKS (PRNI) Sherman Oaks, Calif. 818 377-5300 A producer and syndicator of programs for stations nationwide	10.1	1.2	16.8	40.9	28.1	6—4	5	12	16

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COMPANY (STOCK SYMBOL)	CURRENT RESULTS		THREE-YEAR AVERAGES			INVESTMENT DATA			
	SALES \$ MIL	EARNINGS \$ MIL	INCREASE (%) SALES	PROFITS	RETURN ON CAPITAL	STOCK PRICE 52-WEEK HIGH LOW	RECENT	P/E RATIO	MA VA S
77 PROGRESS SOFTWARE (PRGS) Bedford, Mass. 617 275-4500 ● Creates programming language and data bases for software developers	91.6	10.6	49.3	64.1	20.3	62—29	39	23	22
78 ILC TECHNOLOGY (ILCT) Sunnyvale, Calif. 408 745-7900 High-intensity lighting for aerospace, medicine, and entertainment	45.0	4.8	22.8	58.6	24.8	15—8	12	12	5
79 SUMMIT CARE (SUMC) Burbank, Calif. 818 841-8750 Operates convalescent hospitals and retirement centers	80.3	4.6	7.7	86.5	24.4	17—8	12	12	6
80 WHOLE FOODS MARKET (WFM) Austin, Tex. 512 328-7541 ● Tofu time. Chain of 22 natural-food supermarkets	148.6	3.8	24.2	106.7	20.5	36—15	35	38	14
81 CANTERBURY EDUCATIONAL SERVICES (SKIL) Medford, N. J. 609 953-0044 It's a learning experience: Owner and operator of vocational schools	14.9	2.0	10.6	289.0	18.6	7—1	5	22	4
82 ARROW INTERNATIONAL (ARRO) Reading, Pa. 215 378-0131 Makers and marketers of clinically advanced catheters	140.7	20.7	22.6	33.3	26.5	30—18	19	10	41
83 ROTECH MEDICAL (ROTC) Orlando, Fla. 407 841-2115 ● Supplies oxygen and IV equipment to hospitals and at-home patients	42.7	4.3	42.8	68.7	19.9	16—9	12	17	7
84 AMERICAN MEDICAL ELECTRONICS (AMEI) Richardson, Tex. 214 918-8300 ● Broken bones need mending? Their bone-growth stimulators will help	33.6	3.6	49.5	101.0	16.7	15—6	7	14	4
85 STATE OF THE ART (SOTA) Irvine, Calif. 714 753-1222 ● Count on this: Developers of accounting software	22.7	5.0	24.4	27.6	25.8	13—3	9	16	7
86 GMIS (GMIS) Malvern, Pa. 215 296-3838 Clinically intelligent. Software that helps health insurers contain costs	16.5	3.1	59.8	81.1	14.5	21—10	18	39	11
87 HU-KOTE HOLDING (NKOT) Dallas 214 250-2785 A maker of office supplies, from typewriter ribbons to laser toners	114.8	9.2	11.3	69.7	24.1	22—12	19	13	14
88 BOOKS-A-MILLION (BAMM) Birmingham, Ala. 205 942-3737 Best-sellers and much more. 107 book retailers in Southeastern U.S.	95.1	3.7	17.3	77.0	21.7	18—12	16	23	11
89 CROSSCOMM (XCOM) Marlboro, Mass. 508 481-4060 Bridging and routing: It makes and markets internetworking devices	33.3	2.5	94.1	64.0	14.3	34—11	29	87	19
90 LIFETIME HOAN (LCUT) New York City 718 499-9500 ● Cut out to be wholesalers of cutlery, kitchen tools, and gadgets	61.9	6.3	16.1	94.2	20.6	18—9	14	13	9
91 BRODERBUND SOFTWARE (BROD) Novato, Calif. 415 382-4400 Publisher of educational and entertainment software	90.5	12.1	25.1	49.5	22.7	50—19	35	29	33
92 RALLY'S (RLLY) Louisville, Ky. 502 245-8900 ● Its hamburger chain offers quick, sizzling bites	132.5	9.2	56.5	78.2	14.0	24—12	15	20	18
93 COPLY PHARMACEUTICAL (CPLY) Canton, Mass. 617 821-6111 No name is its game: Makers and marketers of generic pharmaceuticals	52.0	12.3	37.4	55.2	20.2	46—21	38	31	41
94 NDC AUTOMATION (AGVS) Charlotte, N. C. 704 362-1115 Factory automation devices for equipment makers, from textiles to aerospace	12.2	1.1	24.6	125.3	17.7	15—1	14	30	3
95 VICOR (VICR) Andover, Mass. 508 470-2900 It handles complete power systems, from AC to DC and more	67.5	12.6	32.7	72.2	19.5	24—13	15	26	31
96 FASTENAL (FAST) Winona, Minn. 507 454-5374 Distributors of threaded metal fasteners and other construction supplies	86.4	9.3	24.8	24.9	23.6	26—14	22	45	42
97 PRIMA ENERGY (PENG) Denver 303 297-2100 Rocky Mountain energy: An independent oil and natural gas company	12.2	3.2	40.1	73.0	17.7	33—8	30	18	5
98 COMCOA (CCOA) Wichita 316 683-4411 ● It rents out the comforts of home—electronics and furniture rental centers	59.0	5.0	6.8	37.0	25.0	15—11	13	13	5
99 VITALINK PHARMACY SERVICES (VTLK) Naperville, Ill. 708 505-1320 Its pharmacy services come to the rescue with medicine and consulting	56.8	6.8	45.8	37.5	18.8	15—8	9	17	11
100 TECHNE (TECH) Minneapolis, Minn. 612 379-8854 Manufactures and sells diagnostic products for hematology and biotechnology	27.3	4.3	21.6	72.1	20.0	19—9	14	31	13

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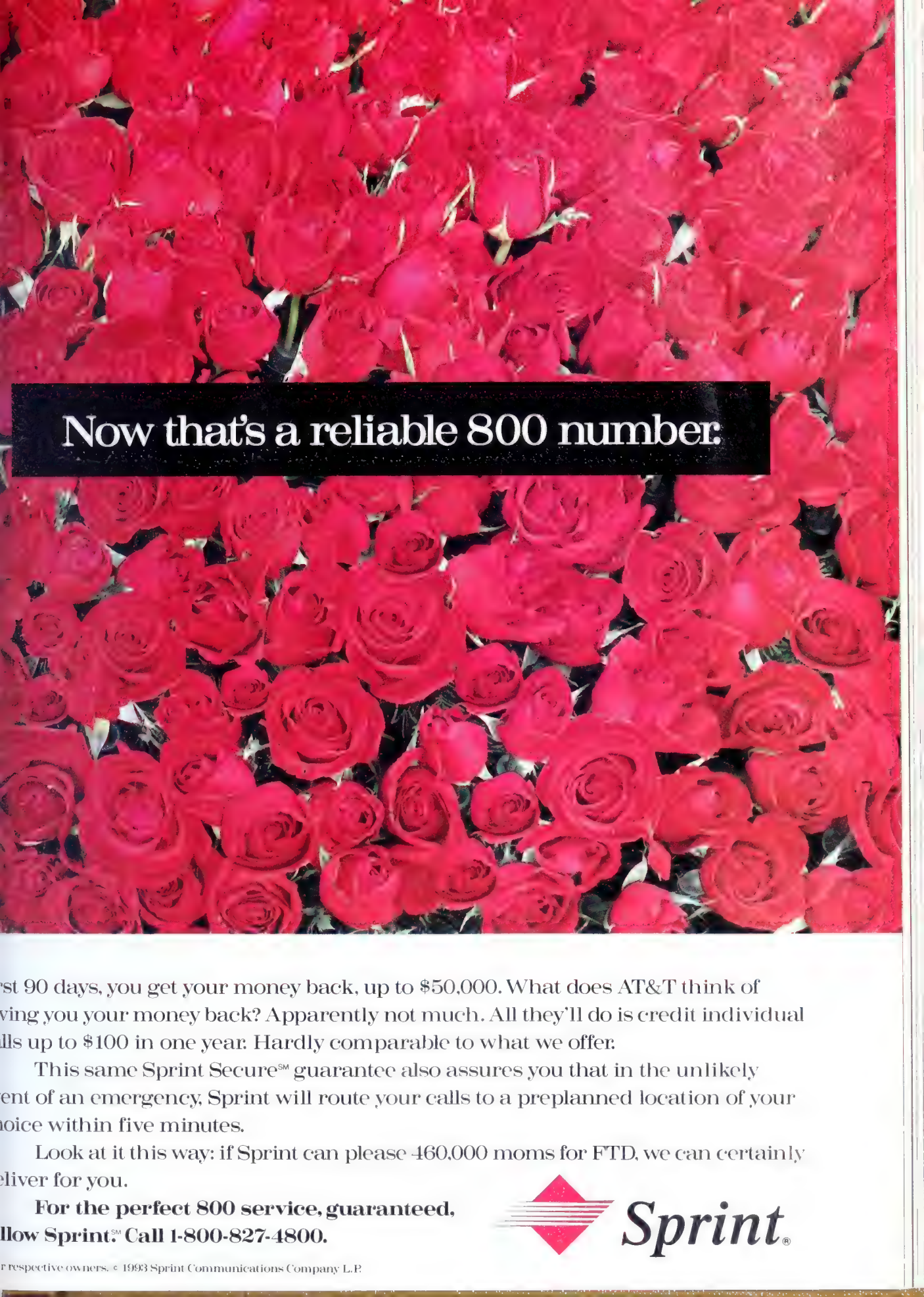
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PATENTS

PATENT SHOWDOWN PENDING

The Sony-Kodak video battle adds to U.S.-Japanese fractiousness

Of all the technologies Japan has staked out since World War II, video is the crowning success story. In 1992 alone, shoppers around the world bought more than 50 million VCRs and camcorders, nearly all of them built by Japanese companies and their Asian licensees. It's a \$17 billion market. So when Eastman Kodak Co. sued Sony Corp. in Texas recently for allegedly violating its patent on the recording technology used in many video machines, the action sent a chill through Japan's electronics sector.

The two companies are digging in for what could be the fiercest patent battle of the 1990s. If Kodak wins, it will likely demand hundreds of millions of dollars in damages and royalties from Sony and from other Japanese companies who rely on the same technology. In an encouraging sign for the Rochester (N. Y.) company, it recently won a patent on the disputed "microgap" technology in Japan,

reversing a 1990 decision by Tokyo's patent office. Kodak's patent covers the optimal size for tiny gaps in magnetic recording heads used to store images on tape in most camcorders and VCRs. Sony is fighting back: As it prepares for a confrontation in U.S. courts, it's also seeking once again to overturn Kodak's hard-won Japanese patent. The technology, says a Sony official, "was in the public domain long before" Kodak filed its patent. Kodak declines to comment.

Whichever side wins, the clash is bound to touch one of the rawest nerves in the U.S.-Japan technology relationship: intellectual property rights. In the past two years, U.S. companies and private inventors have filed more than 100 patent and copyright suits against Japanese companies. Encouraging these actions is a string of huge damages American juries have awarded U.S. patent holders. Under siege, the Japanese have become fierce street fighters, boning up

on U.S. law and aggressively countering (table, page 100).

In the new, confrontational climate of U.S.-Japanese relations established by President Clinton, "I'm sure these kinds of disputes are going to be raised more and more," says Mark Foster, a Portland (Ore.) technology attorney and former U.S. legal counsel in Tokyo. "It's only a matter of time before the Clinton team takes these up." Indeed, many American trade experts consider Japan a long delays in granting patents a non-tariff barrier. The U.S. Trade Representative's Office says it is studying the patent disputes with the possibility of raising the issue in bilateral talks. As Clinton just nominated an aggressive advocate of patent and copyright enforcement, Bruce Lehman, 47, as commissioner of patents and trademarks.

LESS RED TAPE. The patent wars go to the heart of U.S.-Japanese relations. Facing growing costs, big companies in both countries are pooling technology. Collaborations such as the chip partnership of Texas Instruments and Hitachi, AT&T and NEC, and of IBM, Toshiba, and Siemens reduce licensing burdens and make it easier for the partners to strike bargains because they can negotiate groups of patents. By raising the cost of infringement, patent battles have hastened the rush to cross-licensing and alliances. But they've also sown mistrust, making most high-tech alliances less productive than they might be otherwise.

At the same time, the patent battle



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U.S. COMPANIES ARE CRYING PATENT PIRACY...

1993 EASTMAN KODAK SUES SONY in Texas, claiming patent infringement for recording heads used in VCRs and camcorders.

IBM SUES KYOCERA in Tokyo for selling personal computers containing proprietary IBM operating software.

1992 HONEYWELL WINS \$127 MILLION in autofocus suit against Minolta. Then, settles with more than 10 other Japanese companies. Total gain: \$300 million.

LORAL FAIRCHILD SUES 30 JAPANESE AND KOREAN MANUFACTURERS for infringing on patents for image sensors in videocameras and faxes.

SEGA ENTERPRISES SETTLES WITH U.S. INVENTOR JAN COYLE after court upholds his imaging patents.

AMGEN WINS SUIT AGAINST CHUGAI, which stops distributing contested drugs.

...AND THE JAPANESE ARE FIGHTING BACK

1993 MITSUBISHI ELECTRIC SUES TO HAVE JEROME LEMELSON'S patent on assembly line inspection systems declared invalid.

1992 RICOH SUES HONEYWELL in New Jersey court over sensor patents.

MITSUBISHI ELECTRIC SUES WANG claiming it violated U.S. antitrust laws in efforts to enforce patents on chip modules.

SANYO ELECTRIC SUES TEXAS INSTRUMENTS in San Francisco, claiming TI's coercion over chip licensing breaches antitrust laws. The parties settle out of court.

1991 FUJITSU SUES TI in Tokyo to exempt Fujitsu from TI's chip patent.

DATA: BUSINESS WEEK

close doors to dozens of smaller companies that lack the money to fight drawn-out court battles and don't possess the technological assets with which to barter. Says Jerry Rogers, president of chipmaker Cyrix Corp. in Richardson, Tex.: "If Intel had to pay the kind of price [in litigation] that we have to pay, there wouldn't be an Intel today." The patent clashes also add to overall costs of making goods. "Companies putting out good, cheap products are getting dragged down, and the additional cost will land on consumers," says Hisao Yuasa, general manager of the legal office at Ricoh Co. in Tokyo.

Even so, the potential costs haven't dampened the litigation frenzy. U.S. electronics companies for years have blasted Japanese rivals for ripping off ideas and rushing them to market. Finally, courts in Japan and America are lending a sympathetic ear. Patent holders have won a series of high-profile victories against Japanese companies in the U.S., culminating in Honeywell Inc.'s defeat of Minolta Camera Co. in 1992. Minolta was forced to cough up \$127 million in settlement fees and license payments for autofocus technology covered in Honeywell's patents. Honeywell then collected an even larger sum from more than 10 other camera makers, pushing the total over \$300 million.

The Kodak-Sony showdown is now raising the stakes even more. In 1979, Kodak filed a patent for microgap technology based on research by James U.

Lemke of its Spin Physics subsidiary. Although a U.S. patent was issued in 1981, the Japanese Patent Office rejected Kodak's application when Sony and other Japanese companies challenged it. Sony claimed that the move to narrower gaps was a well-established industry trend.

In subsequent meetings, however, Kodak was able to persuade Japanese authorities to grant the patent. The approval in April lends tacit support to Kodak's suit in the U.S., though there's

American trial lawyers and patent scholars are being jetted to Tokyo to address "know-thy-enemy" seminars

a downside as well to the timing: Kodak is launching electronic imaging based on compact-disk technology, on which Sony owns some key patents. Kodak declines to comment, but experts say the U.S. giant will require cooperation from Japanese consumer electronics companies that its suit is starting to alienate. Sony and others say they intend to challenge the Tokyo patent office decision.

In Japan, meanwhile, the string of legal attacks has become fodder for anti-Americanism. Last summer, TV announcer Soichiro Tahara railed against patents

as a "nuclear weapon prepared by America. People everywhere will be frustrated, unable to produce anything." Others cry the American jury system, while they argue is biased against Japan.

The Japanese apparently have decided that the best defense is a strong offense. Company executives have bought themselves in books on the U.S. patent system and patent code. Scores of company recruits have been sent to U.S. law schools while American lawyers and patent scholars are jetted to Tokyo. Based on U.S. legal advice, the Japanese are trying to bog down their accusers. In the past two years, six major Japanese corporate defendants in patent suits have wheeled around and sued their accusers: Fujitsu and Sanyo Electric sued Texas Instruments, hoping to escape paying heavy licenses on its integrated-circuit patents. Mitsubishi Electric Corp. sued Wang Laboratories Inc., claiming that demands for royalties on Wang's semiconductor-related patents violated American antitrust law. And Ricoh countersued Honeywell for allegedly violating a Ricoh patent on air-conditioner sensors.

SUMO MENTALITY. Can the patent wars be defused? The best way, say experts in both countries, would be to harmonize the starkly different patent systems. The U.S. grants patents to those who claim to have invented something first. In Japan and most other countries, patent rights go to whoever first files an application. Applicants and their inventions are kept secret in America until a patent is granted. But in Japan and Europe, the information is published months after filing, which gets technical data into the public domain sooner. More important, American inventors can patent an invention and all obvious spin-offs in a single application. Authorities in Japan grant separate patents for minor variations.

Nobody doubts that the Japanese patent European systems are tougher on inventors: Publishing information encourages imitators. And the flood of minor applications creates horrendous backlogs. The electronics patent filed in Tokyo to would take at least five years to clear instead of two years in the U.S.

But in the current climate, it's hard to see how the patent systems can be harmonized. The epic Kodak-Sony case suggests that the "yokozuna," or sumo champions, of America and Japan are squaring off for battle," says Tokyo attorney Toshiaki Hasegawa. As long as the costs—and profits—of fast-moving technology are so steep, there's little sign that the courtroom fighting will fade anytime soon.

By Neil Gross in Tokyo

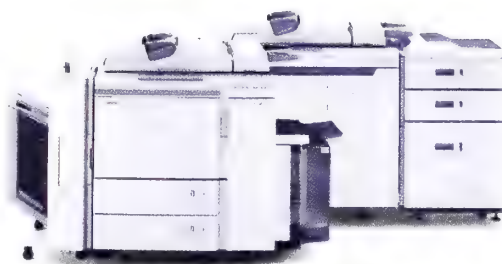


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Developments to Watch

BY EMILY T. SMITH

GETTING BIOFEEDBACK TO SHARPER FOCUS



For years, biofeedback systems have helped people learn to relax, lower their blood pressure, and cope with pain. With a computer and other gear collecting and displaying physiological data, individuals learn to alter their internal state by force of mind. Subjects know they're approaching a goal when a circle on the computer screen grows larger. But

hard to achieve the same result without the gear, since people have trouble conjuring up a circle that changes size. Mindscope Inc. in Meadville, Pa. To give biofeedback a more lasting effect, its system replaces the circle with video clips stored on a Pioneer laser-disk player. When a subject is close to the goal, footage of waves crashing on a beach appears in sharp focus. Move away from the goal, and the image gets progressively out of focus. The advantage, Mindscope officials say, is that nature scenes on video are easier than the circle to recall, and thus give the computer-run system a greater carryover effect.

MAYBE YOU REALLY CAN FIND YOUR WAY TO CLEANER TEETH

A new product from Purdue University's Fort Wayne (Ind.) campus could take a big bite out of the \$3 billion U.S. chewing gum market. Purdue researcher Carl Kleber has developed a chewing gum that he says can remove plaque and polish teeth at the same time. The secret: an ingredient called calcined kaolin, a purified clay that is treated at high temperature. Since the early 1980s, Kleber has experimented with different sizes of kaolin to find the right combination to clean and polish without harming tooth enamel. The gum, which looks and tastes like regular chewing gum, has been formulated with different flavors—even bubble gum. Several major U.S. oral-care companies are holding clinical trials of the gum, says Stanley Becker, vice-president at San Francisco-based Premedent Technology Inc., a technology-transfer company that is working with Purdue to commercialize the product. Becker, who says the gum is intended to be a supplement rather than a substitute for brushing, expects to line up a manufacturer within the next six months.

SHEDDING LIGHT ON THE ODD CHROMOSOME OUT

Each normal human sperm cell spells out sexual destiny by carrying either an X or a Y chromosome. But when these cells contain an extra sex chromosome or any other chromosome, called an autosome, the sperm's progeny can suffer myriad health problems, including mental retardation, congenital malformations, and behavioral abnormalities.

Building on a technique that uses a fluorescent dye to "light up" pieces of human DNA, scientists at Lawrence Livermore

National Laboratory in Livermore, Calif., can now quickly and reliably illuminate these extra chromosomes and thus identify men at risk for conceiving children with health problems. The new technique was developed to track malformations in chromosomes as cells divide. But researchers hope that the ability to pinpoint the presence of extra chromosomes in sperm will give them a tool to study external factors, such as smoking or exposure to drugs, that could cause mutations. "Now we can determine whether those things we worry about are really the problem," says medical biophysicist Andrew J. Wyrobek at Lawrence Livermore. Ultimately, the technique may make it possible to screen men for abnormal sperm cells.

BIG BLUE MAKES A BIG SPLASH IN THE CHIP MARKET

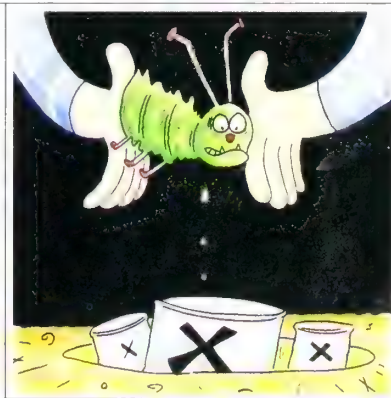
For most of the 1980s, there was an on-again, off-again debate within IBM: Should the world's largest chipmaker and perennial memory-chip pioneer sell semiconductors to external customers, not just internally? Last year, the decision came down in favor of competing in the open market. Market watchers such as Dataquest Inc. viewed IBM's goal—\$500 million in outside sales within three years—as optimistic. That was because most observers figured the main thrust would come in so-called DRAM memory chips, a glutted market.

IBM, however, surprised everyone at the mid-May Custom Integrated Circuits Conference in San Diego. There, it announced a major push into the fast-growing market for application-specific integrated circuits, or ASICs. The company will offer its most advanced ASIC designs, including chips with an incredible 1.3 million gates, or logic switches. Customers will thus be able to use these ASICs as the guts of very complex electronics gear—or save money by combining several existing ASIC chips on one slice of silicon. Going to market with its best ASIC technology, says Dataquest, shows that IBM is serious about becoming a major player in chip markets.

THE 'GREEN' GENES INSIDE INSECTS

Insects have the vexing habit of eventually developing resistance to most of the chemicals industry develops to wipe them out. Now, scientists may transform that liability into an environmental asset.

Richard Michael Roe, associate professor of entomology at North Carolina State University, has identified the genes in several insects that help them alter the chemical makeup of an insecticide so that the bugs can survive. Roe has inserted those genes into microorganisms, where the genes continue to function. The genetically engineered bacteria, says Roe, could theoretically render chemicals harmless. In experiments, one gene enables bacteria to make some toxic substances water-soluble. Roe thinks that bacteria with insect genes could be used in a variety of ways—to clean up contaminated soil or render the toxic byproducts of manufacturing processes harmless. NCSU has applied for patents on the genes and process, and Roe is trying to interest companies in the technology.



DID LESLIE WEXNER TAKE HIS EYE OFF THE BALL?

Critics claim The Limited and other properties have been suffering a case of management neglect

Retailing savant Leslie H. Wexner isn't the type to wax sentimental—even about the most sentimental of things. "Marriage?" he says. "I was kind of neutral about it. I figured if you meet someone and you fall in love, you get married. If you don't, you don't." Well, he did. In January, the 55-year-old chairman of The Limited Inc. married 31-year-old Abigail S. Koppel, a corporate attorney at Davis Polk & Wardwell. She has since given up her job at the prestigious New York law firm and now the two are talking kids.

Les Wexner is nesting. If ever there was a sign that the '80s are long gone, this is it. Of course, Wexner has embraced the current decade in his own inimitable style: The erstwhile bachelor billionaire didn't just buy a house for his new bride, he built a small town outside of Columbus, Ohio, and nestled into a 60,000-square-foot mansion.

Shareholders, however, are hoping that Wexner's newfound interest in hearth and home will translate into a renewed devotion to The Limited. The \$7 billion retailing powerhouse is suffering a bad case of 1980s hangover. Its stock has stalled at 1987 levels. The company's two largest divisions—the flagship Limited Stores and Lerner New York—have lost direction and profits. "Our business hasn't been good for years," concedes Limited Stores President Howard Gross. "Hell, yeah, I'm feeling pressure." As for Victoria's Secret Stores, the once hot lingerie chain is plagued by persistent quality problems.

MEA CULPA. The recession certainly hasn't helped. But many analysts and former employees lay the blame at Wexner's feet. While his core units deteriorated, they contend, the chairman focused on smaller, more promising businesses. He became distracted by outside pursuits ranging from real estate to board memberships to designing interiors for his own and friends' homes. When he was around, former employees say, his mercurial, peripatetic presence served to rattle, not help. And after several key defections and firings,

management ranks are thin. "Look at the results," says a former top executive. "They're lousy. I still own Limited stock, and I'm very angry with him."

Wexner, who denies taking his eye off the ball, insists that he's fully engaged in the company. Programs are under way to shore up management, stores are being "right-sized," and quality problems are being addressed. Still, during a rare interview at The Limited's Columbus headquarters, Wexner offered a mild mea culpa. "I have been very busy doing a lot of things," he says. "As for being disappointed in Limited and Lerner's results, yeah, I am."

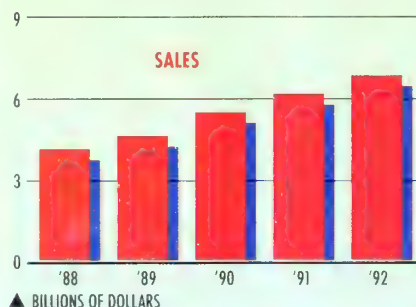
Wexner seems to have convinced Wall Street's retail analysts that he has the situation under control. Most are predicting sales will approach \$8 billion this year, up from \$6.9 billion in 1992. Operating earnings, they think, could top \$1 billion, up from \$789 million last year. But first-quarter results, which came out May 11, fell short of Wall Street's es-

timates. Sales were up only 7.3%, compared with predictions topping 10%. Income dropped 14% instead of rising 7%. Worse yet, same-store sales dropped roughly 5% at Victoria's Secret and at least 10% at Limited Stores and Lerner.

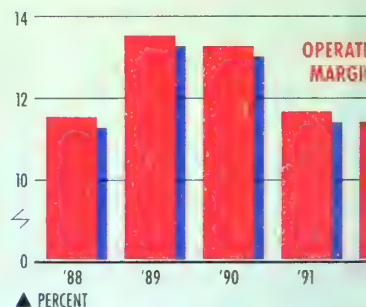
Now that he's back, the question is whether Wexner has a coherent strategy to turn around his core businesses. Limited's growth lately has come largely from its Express Inc. division, a young women's apparel chain that came the largest producer of sales in earnings last year—and a slew of fast-growing startups. Most of those businesses are run by Michael Weiss, a widely renowned merchant who has been at the company for 12 years.

By contrast, Wexner has lost his touch. He has lost his touch with people at Limited Stores, Lerner, Victoria's Secret. Since 1990, both Victoria's Secret and Lerner have been run by Gibson, president of Limited Stores, and Robert Grayson, head of Lerner, has departed. Wexner replaced Gibson—steered Limited Stores for six years.

**THE LIMITED'S SALES
HAVE BEEN GROWING...**



**...BUT MARGINS
HAVE BEEN SINKING**



**...AND THE STOCK PRICE
IS MOVING SIDWAYS**



DATA: UBS SECURITIES INC., BRIDGE INFORMATION SYSTEMS INC

Howard Gross, who had successfully run Victoria's Secret. The result: 1 divisions have suffered. Gross isn't sold women's apparel for eight years and needs to find a strategy that works. His buying team is in turmoil. In April, four of his top buyers resigned. He then left to join Ann Taylor Stores. The management unrest comes at an especially bad time. Over the past several years, former insiders say, the strategy that wove together The Limited's

growth in the 1980s has begun to unravel. The problem: Its stores and catalogs—long on glitz and image—have sold apparel short on quality. That was fine during The Limited's boom days, when it ran circles around department stores with flashy, up-to-date mall shops. But Gross admits that as his core "twenty-something" customer moved into her 30s, she balked at pants with no linings and plastic buttons that popped off.

Trouble is, the company's traditionally rich margins were based on that formula. And as customers began to sour on paying up for such clothing, markdowns of merchandise at Limited Stores and Lerner ate into profits. UBS Secur-

ities Inc. analyst Todd Slater estimates that in 1989, the two chains together generated roughly \$2 billion in sales and \$313 million in operating profits—more than half the company's total earnings. By last year, their combined profits had fallen to \$161 million.

All the while, Wexner has been busy doing other things. Much of his time at work—probably too much, he admits—has been spent developing what he calls the "baby" businesses: smaller specialty retailers he hopes will grow into giants. So far, the babies have been precocious. Bath & Body Works, a chain of Body Shop Inc. knockoffs that sell fragrances and soaps, should earn \$13 million this year on \$105 million in sales. And Structure, a 330-store chain that sells moderately priced, Armani-inspired men's clothes, should pocket \$63 million on \$455 million in sales.

For all their success, though, those chains made up just 5.5% of total sales in 1992. And other units have their own problems. Neither Abercrombie & Fitch, a preppy men's apparel chain, nor Henri Bendel, a set of four tony women's apparel stores, is profitable. Improving quality at Victoria's Secret has pinched margins there.

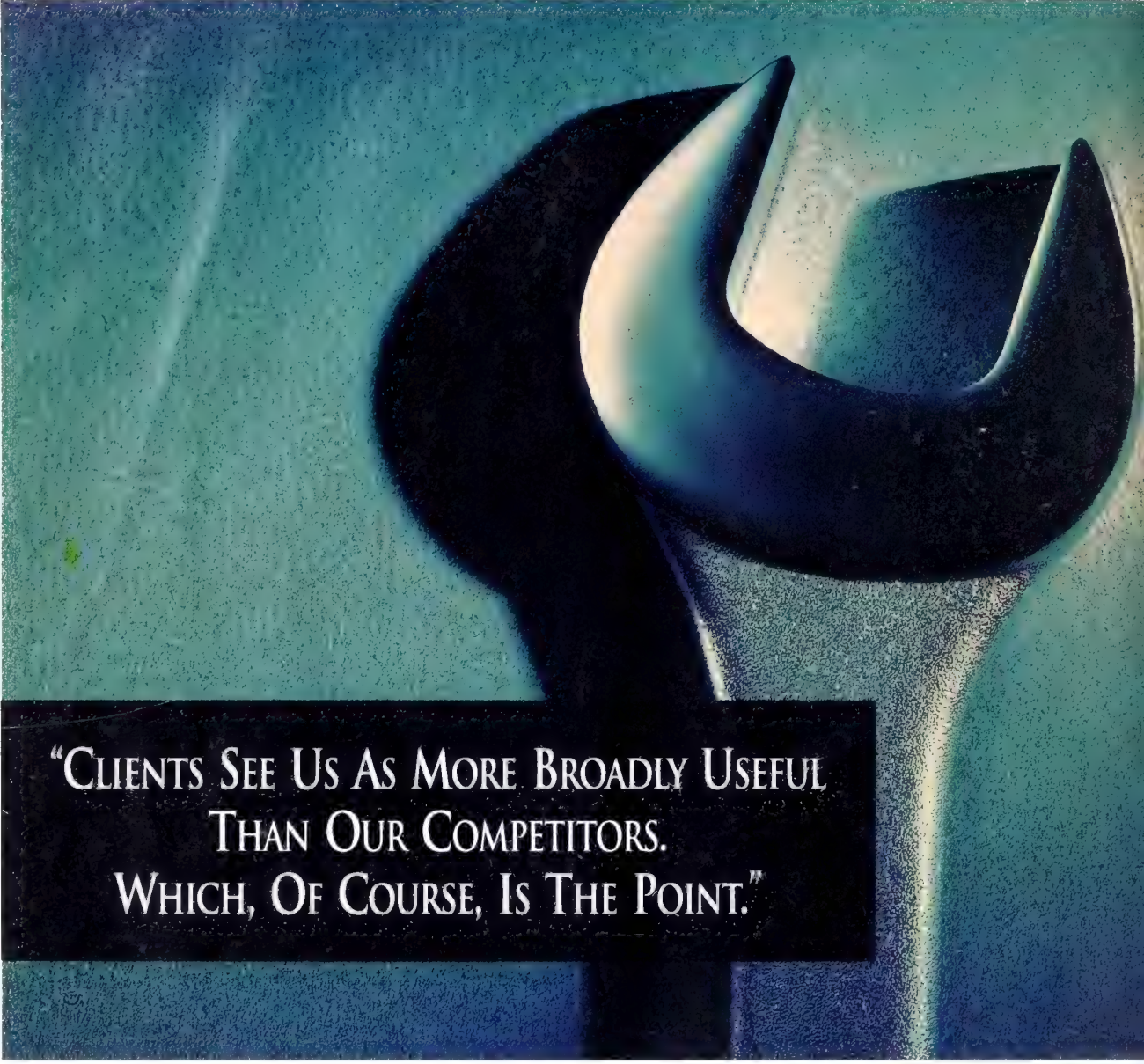
COUNTRY HOUSE. Although he is loath to admit his stores stocked shoddy merchandise, Wexner describes the environment into which he was selling this way: "In the '70s and '80s, the mentality of America was that everything was disposable. The notion of quality wasn't important." The '90s are different: Value is king. Critics say that as the market turned—rendering The Limited's key units out-of-step—Wexner was distracted.

Wexner bought companies that he himself describes as "flat out losers." He launched several takeover attempts of such department-store chains as Carter Hawley Hale Stores Inc. and Marshall Field & Co. Meanwhile, he began assembling an art collection studded with Picassos and de Koonings, bought mansions in Palm Beach, Fla., and Aspen, Colo., took cruises on his yacht, The Limitless, and made a hobby out of redecorating homes. Wexner sits on the boards of Sotheby's and Banc One Ohio Corp. and donated \$25 million for the Wexner Center for the Arts at Ohio State University, his alma mater.

Perhaps his most spectacular diversion is the sprawling "town" he is building in New Albany, Ohio—a once sleepy hamlet 12 miles north of Columbus. Starting in 1987, Wexner bought thousands of acres for a development including hundreds of homes, sewer infra-



With
new wife Abigail:
Will Wexner's settling
down translate into
renewed devotion to
The Limited?



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People

structure, a school, and a country club. "I wanted to build a house in the country," he says. "But there's no sense having a trailer park across the street."

One former Lane Bryant executive says Wexner was visibly absent. He stopped coming to regular Lane Bryant Monday meetings, for instance, and periodically visited the division. "If you're going to get involved in decision making," this executive says, "you have to get a little closer to it than dropping in every couple of months and delivering yourself from on high."

FOCUS. Ironically, when Wexner became involved, he was unusually demanding. Impatient and volatile, he insisted on long hours and didn't understand outside demands, such as family. "Life at The Limited becomes monastic," says another former employee. "It becomes an intrusion on your personal life."

Wexner declined to comment on the matter but he denies being distracted by the extracurricular activities. "I don't think most analysts understand the difference between whether I work a 70-hour week or an 80-hour week, I take my head with me when I go home," he says. But he's also intent on convincing his critics that The Limited's problems are receiving his full attention. "All I've got to do is focus on executing," he says.

So far, that has meant prodding troubled divisions to hone their merchandising strategies. Wexner has also involved himself in upgrading quality. Gross says Wexner has made buying trips to Hong Kong, where he placed O.K.'d orders of clothing made from more expensive linens and silks. "I think we've made tremendous progress in quality," says Gross. "So why aren't we seeing the results? We were kind of naive about how long it would take."

But others, including institutional shareholder David Gilson of IDS Financial Corp., think The Limited still needs to tune its fashion antenna. And Wexner admits he has a people problem. Growth in other divisions, Wexner says, robbed executives from Limited Stores who weren't replaced. "In perfect hindsight, I think we neglected [Limited Stores] and cannibalized it." Now, he has assigned human resources director Arnie Karpick to help Gross find better merchandisers. "It's clear we've not done a great job of identifying and nurturing talent," Karpick says.

Finding good people is no easy task. Devising a strategy to reposition The Limited for the '90s will be even tougher. Can a refocused Wexner pull it off? "Entrepreneurs, guys that start businesses, grow with them," Wexner says. "It's more painful than it would appear."

By Laura Zinn in Columbus, Ohio

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TIME TO PRUNE THE IVY

Soaring costs and cuts in funds mean academe must restructure

Poor teaching. Arcane research. Skyrocketing tuition. Racial strife. These days, there seems to be less and less to admire about America's most valuable economic asset: its colleges and universities.

Long the crown jewel in America's educational system and the envy of the world, academe has failed to rein in its soaring costs. Between 1980 and 1992, the tuition, room, and board for attending a private college swelled 9.2% a year—twice the rate of overall inflation and even higher than the much bemoaned medical inflation. The cost of going to a public college increased at a 7.8% annual rate, with much of the jump in costs coming in the past several years.

With family income hardly keeping up with economywide inflation, it's no wonder that more and more people are finding it harder to finance a college education. College costs as a share of median family income jumped from 26.6% to 39.9% for a student at a private school and from 12.1% to 15.9% at a public one.

Outcries about rising tuition aren't new. For years, university defenders dismissed the price squeeze as a concern: Look at the return on investment from a college education, they said. Scholarships and loans pick up part of the tab, they added. But now, the lethal combination of a stagnant economy

and government fiscal retrenchment has thrown universities into a huge financial crunch. And schools are encountering fierce resistance to covering budget shortfalls by raising tuitions.

Like many U.S. companies, colleges have no alternative but to boost productivity and streamline operations. Higher education is a huge, sprawling enterprise with sclerotic bureaucracies and too many marginal operations. "We see departments and staff people that duplicate and triplicate responsibilities," complains Craig Greenberg, president of the University of Michigan student assembly. Says Robert Zemsky, director of the Institute for Research on Higher Education at the University of Pennsylvania: "All the forces that are driving IBM and General Motors to restructure are sweeping universities."

"MORE SELECTIVE." A growing number of universities are embracing the restructuring mantra and hacking away at administrative and faculty bloat. They are trying to move away from an overemphasis on research and toward teaching. More are adopting new technologies to improve teaching and the dissemination of information. Some are shifting money and talent into fields where they have a comparative advantage. "We can't do everything anymore. We have to be more selective," says L. Jay Oliva, president of New York University. Adds Michael Granfield, vice-chancellor of the University of California at Los Angeles: "We're committed to no more across-the-board cuts. We'll preserve the highest-quality departments and schools."

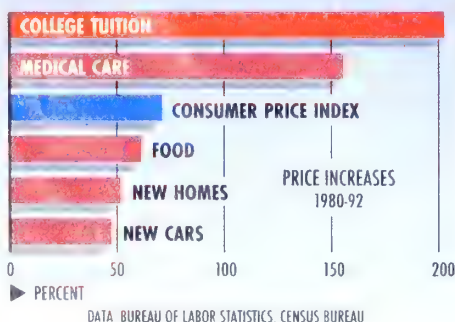
So far, the restructuring is holding down tuition increases—at least this year. Private college hikes are running on average at about 6%, the lowest rate of increase in more than a decade, albeit still twice the consumer price index. Public college tuitions should also be less than last year's 10% hike.

Still, restructuring in higher ed-

ucation will spark a lot of infighting will take many more years than the medical corporate overhaul. College boards wield limited authority, and campus decisions typically involve countless committee meetings. Last year, Brandeis University adopted its restructuring plan, but only after nine months of committee work by faculty and administrators, intensive campus consultations, two "town" meetings for the faculty, and a question the administration. At many universities, faculty members jealously guard their turf, and they worry that corporate-inspired restructurings have no place in academe. "A restructuring is very difficult to accomplish politically in a university environment," says Eamon M. Kelly, president of Tufts University.

In addition, too many university boards aren't pressing hard enough to restructure their institutions. The typical board at an independent college has

HIGHER EDUCATION FAILS THE INFLATION TEST



members and meets three four times a year, usually for less than a day. Here is a wake-up call the air for trustees," says William F. Massy, formerly chief financial officer and currently professor of education at Stanford University.

SUPPORT SERVICES. What are college budgets so far off the stratosphere? Several things. In the past few decades, course offerings in academic fields have proliferated. Rarely were departments weeded out or programs cut back as new ones were added. A lot more money went toward scholarships, especially at private universities and liberal arts colleges. Research costs jumped, with scientists requiring state-of-the-art equipment. Average faculty salaries almost doubled in the 1980s, after badly lagging behind inflation in the 1970s. And confronted

WHAT IS DRIVING UP COLLEGE COSTS

Expenditure per full-time student in constant 1989-90 dollars Percentage change 1981-90	Public 4-year university	Public 4-year college	Private 4-year university	Private 4-year college
SCHOLARSHIPS & FELLOWSHIPS	34%	5%	52%	64%
ADMINISTRATION	19	12	34	26
RESEARCH	21	21	19	17
STUDENT SERVICES	8	2	34	31
INSTRUCTION (includes salaries and benefits)	5	2	26	18
LIBRARIES	5	-13	17	5
OPERATION & MAINTENANCE OF PLANT	-6	-17	5	-4

DATA: NATIONAL CENTER FOR EDUCATION STATISTICS

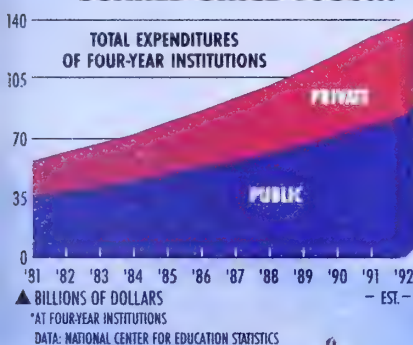
with fewer qualified applicants, schools poured money into sprucing up campus amenities and support services to entice students.

University empire-builders hired an army of administrative bureaucrats to staff their enterprises. Between 1975 and 1985, nonteaching professional staff at colleges and universities expanded by 61%, while the number of faculty

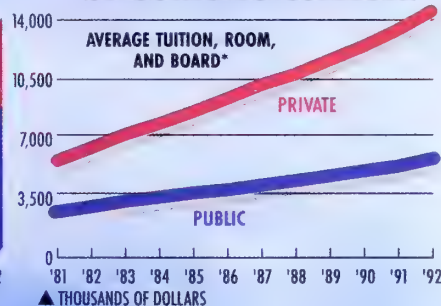
grew by only 6%, according to an Education Dept. study. In the 1980s, administrative expenditures for each full-time student in public universities rose 19%, compared with 5% for instruction expenditures per student, after adjusting for inflation. At private universities, administrative costs rose 34%, vs. 26% for instruction costs.

Some cost pressures won't abate much in the years ahead. Research spending is still mounting at many universities. So is the demand for scholarship money. And the battle for qualified students remains fierce. To attract the best applicants, Georgia Institute of Technology is building a new student center and pouring an additional \$100 million into expanding the school's intercollegiate athletic facilities. Georgia Tech President John P. Crecine is lobbying for a big jump in state fund-

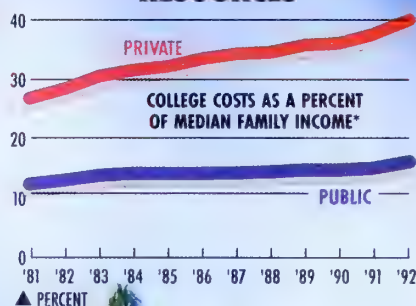
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...AND SO HAS THE COST OF GOING TO COLLEGE...

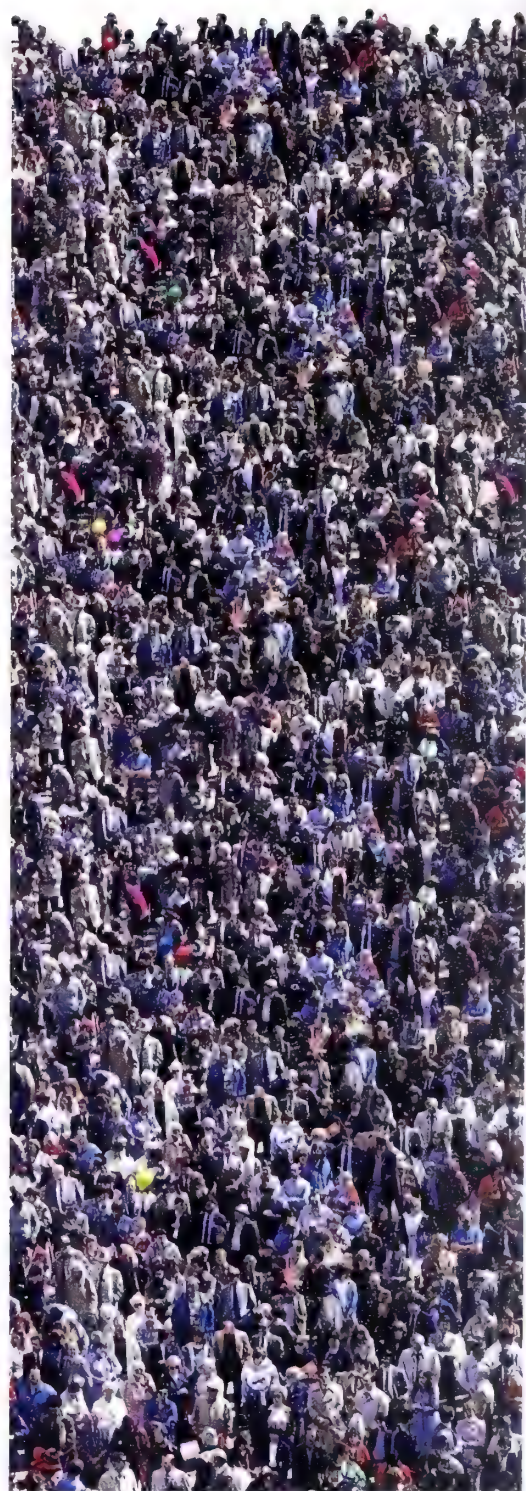


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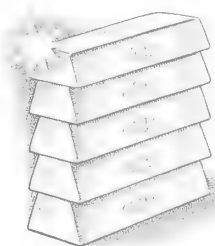
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*Source: Visa Panel Study Diary 1991-92. **Source: Silny Rosenberg 1992. ***Source: Simmons 1992.

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ing and says much higher tuition is almost inevitable.

But more and more universities and colleges will contain costs by slimming down. Tulane in New Orleans recently closed a projected \$18 million budget gap by overhauling its administrative structure. More than 200 staff jobs were cut by combining departments and substituting computers and advanced technology for middle managers. About three dozen faculty jobs will be eliminated over two years through attrition and early retirement. The university reduced its enrollment from 1,375 to 1,225, and annual tuition increases will be kept to 3%. The university is now studying how to reallocate resources among its academic departments.

Syracuse University, under Chancellor

Kenneth A. Shaw, is reducing its enrollment by 20% and has cut tenured faculty by more than 120 and administrative staff by nearly 300. The university has also slashed its computer science budget by 50% and engineering by 30%. Over the years, both departments' budgets had grown modestly, even though enrollment fell by half. But Syracuse isn't just cutting. It has added \$1 million to the budget of its Maxwell School of Citizenship and Public Affairs and increased spending in its architecture, arts, and communications departments. Brandeis University is dialing back in some fields while boosting its Near Eastern & Judaic Studies and international economics budgets.

Undergraduate teaching is also getting a new emphasis. At Cornell Uni-

versity and New Jersey's Drew University, a professor's teaching ability now counts for half the tenure decision. In years, "universities concentrated on research, and teaching was an afterthought," says Thomas Kean, head of Drew and former Governor of New Jersey. "Now, the pendulum is swinging back, and there is a return toward the value of teaching."

LUSH RESEARCH. A number of schools are experimenting with new technologies to transform the teaching of science and reach pupils outside the classroom. Interactive computer systems, for example, are changing the teaching of foreign languages. Carnegie Mellon University (box) sees a growing market for reaching out to companies that face budget and time constraints. Many c-

CARNEGIE MELLON'S SECRET? STICKING TO WHAT IT DOES BEST

Robert Mehrabian has plenty of ideas about good management: Focus on niches, and market aggressively. Measure progress against your competition. Break down the internal barriers. Stay lean. Never lose sight of the customer. It's the same line that consultants are spreading throughout Corporate America. But Mehrabian isn't a consultant. He's president of Carnegie Mellon University in Pittsburgh, and he is not discussing nearby Westinghouse or Alcoa. The business he's talking about is the very university he runs.

Managing a university as if it were a business seems to pay off. While many of America's great universities are struggling to make ends meet, Carnegie Mellon seems perfectly positioned for the '90s. Research money pours into its computer science department. Industry pays for fully half of the engineering department, with each professor bringing in an average of \$215,000 a year in outside research money. Tuition, meanwhile, rose only 4.9% last year, the smallest increase in 15 years and far below the average for private universities.

TEAMWORK. CMU's success, says Mehrabian, is a product of its own limitations. A private university of fewer than 7,000 students, CMU "couldn't afford to be everything to everybody." That forced administrators to follow a

mandate that could have been written by General Electric Co.'s John F. Welch Jr.: CMU participates only in fields where it can aspire to world-class performance. This includes computer science, engineering, and drama—but not medicine, law, or the classics. "It's a niche play," says Patrick Keating, vice-president. "We don't want to cover the waterfront."

Thanks in part to its limited resources, CMU has long shuttled professors from one department to another. This pays off in many ways. It breaks down the departmental barriers that often create bureaucratic fiefdoms in universities. The computer science department, says Mehrabian, was born in the basement of the business school. And CMU's cognitive psychology department grew out of artificial intelligence studies. "We like to think of CMU as the seamless university," says Mehrabian.

For research projects, CMU creates multidisciplinary teams, called centers. Some 50 centers are working on everything from industrial emissions controls to developing unmanned vehicles. Funding sources, such as corporations and the National Science Foundation, like the teams for their mix of skill and their focus on real-world problems. CMU's Engineering Design Research Center, for example, brings together designers from the fine arts depart-

ment and computer scientists, engineers, and business researchers. The goal is to produce "rapid tool design" to speed up manufacturing.

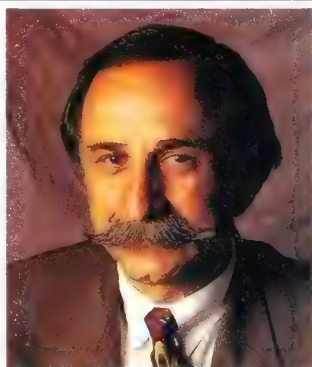
Mehrabian predicts that budget squeezes will produce a shakeout across the U.S. and that only a handful of research universities survive. The rest, he predicts, will have to cut back on research and turn themselves into teaching colleges to cut costs. "You always have to have a comparative advantage," he says.

CASHING IN. Mehrabian is at work developing new roles for CMU in such subjects as environmental and international affairs. The idea, he says, is to prepare students for some of the fastest-growing areas of the economy. Five initiatives already proved themselves a spectacular way this year, when one student in an entrepreneurship seminar, John Kam III, raised millions in funding for an office-paper recycling business.

One place where the university comes up short is in racial diversity. Only 200 or so students are African American, compared with more than 1,100 students from overseas. And only 6 out of 550 faculty members are black Americans, a ratio that, in part, reflects a nationwide shortage of black engineering and science professors.

To be sure, not all universities can follow a niche strategy, especially some of the giant public institutions. But by trying to find the right path in a world of tight budgets, other universities could do worse than take some lessons from CMU.

By Stephen Baker in Pittsburgh



CMU PRESIDENT MEHRABIAN



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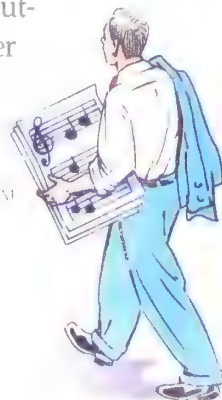
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One Year	+10.3%
Five Year	+18.4%
Life of Fund*	+17.1%

*From inception April 10, 1987

Economics

UNIVERSITY STRATEGIES FOR TOUGH TIMES

BRANDEIS Aims to reduce a \$12 million budget deficit over four years. Full-time faculty will be cut from 362 to 315 and will take on a greater course load. Administrative staff will be cut by 3% on top of a prior 3% reduction.

CITY UNIVERSITY OF NEW YORK Wants to consolidate some programs at its several major campuses, while expanding offerings in science, math, and various health fields.

SYRACUSE Will shrink enrollment by 20%. Some department budgets being slashed by up to 50%, while others receive budget hikes.

TULANE To close a projected \$18 million budget gap, reduced administrative staff by more than 200. Faculty will be reduced by 33. Studying restructuring of academic departments.

UNIVERSITY OF MICHIGAN Adopted a five-year plan to reduce spending by 2%. No salary increases this year for staff making more than \$25,000. Decentralizing power to school units. Teaching quality management techniques to all employees.

DATA: BUSINESS WEEK

panies can't afford to lose workers even a week. So CMT's business school has developed a training program for traders that can be sent to the student's personal computer at work.

To bring in more money to fund research, universities are expanding ties to industry. And the payoff from such links are enormous. Academic research is critical to advances in computers, biotechnology, and other high-tech industries that are boosting U.S. competitiveness. The rate of return on academic research is a lush 28% per year, including indirect benefits to the economy, according to Edwin Mansfield, economist at the University of Pennsylvania. "What happens in universities will have a huge impact on the economy," adds Paul Romer, an economist at the University of California at Berkeley.

Clearly, the stakes are high. Done wrong, university restructuring could drive away faculty, alienate students and eventually damage the nation's productivity growth. Done right, the world's best system of higher education could become even better.

By Christopher Farrell in New York
with bureau reports



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**EXECUTIVE
PROGRAMS**



HE WANTS MACMILLAN, AND HE WANTS IT BAD

Ex-President Reilly has KKR's backing, but it may not be enough

Bill Reilly doesn't want to be known as the Captain Ahab of Corporate America. The 54-year-old publishing executive is a charming fellow with an easy laugh who likes to read Aristotle for fun.

Stand between him and the Macmillan Inc. publishing house, though, and you're likely to be harpooned. William F. Reilly badly wants to buy Macmillan, which went on the block recently after the collapse of its parent, Maxwell Communication Corp. In the almost nine years Reilly was president of Macmillan, he turned the creaky publisher into a powerhouse. But in 1988, he lost a bitter takeover battle with British media baron Robert Maxwell. Reilly didn't stay long under the flamboyant new owner.

Now, Macmillan is up for grabs again. And Reilly is flush with backing from Kohlberg Kravis Roberts & Co., the powerful leveraged-buyout firm that owns 87.2% of his company, K-III Communications Corp. The trouble is, K-III's chairman can't shake a perception that he's on a personal crusade to win back the company: "Even KKR thinks that," he

admits. "But they're wrong. Once you start doing things for ego reasons, you get yourself into real trouble."

Not that Reilly is bashful about his interest. He thinks he's more qualified to run Macmillan than anybody. For one thing, he lured no fewer than 45 Macmillan executives, including his entire management team, to work for K-III. Even his corporate chef came from the Macmillan kitchen. Says Reilly: "You're much better off if you know the business and have a cadre that can run it."

BRASS RING. Reilly also believes he still has a knack for building companies. Since leaving Macmillan in 1990, he has made K-III a formidable media player (table). The company vaulted to prominence in 1991 when Reilly and KKR plunked down \$650 million for Rupert Murdoch's U.S. magazines. K-III's properties now include *New York* and *Seventeen* magazines, Funk & Wagnalls encyclopedias, and the *Daily Racing Form*. But while K-III generates \$778 million in annual sales, Reilly isn't satisfied yet: He wants a capstone for his creation.

No question, Macmillan would trans-

form K-III from a bantam into a heavyweight. It publishes prestigious books, most recently the memoirs of former Secretary of State George P. Shultz, under imprints such as Charles Scribner's Sons and Atheneum. It has strong children's and college book divisions, and it owns 50% of a joint venture in scholarly publishing with McGraw-Hill Inc., which also publishes *BUSINESS WEEK*.

But Macmillan was more than grateful for the implosion of Maxwell's empire. The company's earnings may drop 30% this fiscal year, to \$38 million, on sales of \$682 million, according to executives familiar with the offering documents prepared by J.P. Morgan & Co. Morgan is running the auction for the British American bankruptcy courts. Earnings are way down at Macmillan's P.F. Collier Inc. encyclopedia division, and the joint venture with McGraw-Hill has been plagued by cost overruns.

Reilly won't discuss Macmillan's weaknesses. But given his intimate knowledge of the publisher, he might prefer that challenge to the problems he's faced at K-III. Like other publishers, Reilly is suffering from an advertising drought. K-III's operating income rose 8% in 1991 to \$125 million. But operating income for its magazines dropped 7%, to \$50.6 million. In fact, K-III's overall income wouldn't have grown at all if not for a 38.6% jump in its direct-response division, which includes book clubs.

Nor has Reilly had much luck building his profile as a magazine publisher. "He didn't come in and move the magazine off the mark," says industry consultant Martin S. Walker. Reilly bid aggressively for *Bon Appetit* and *Architectural Digest* but lost out to Condé Nast Publications Inc.'s S.I. Newhouse, who paid \$175 million. The tony magazines would have burnished K-III's image, which some observers say is pedestrian.

Reilly says K-III is going through inevitable growing pains that come with acquisitions. For example, he had to spend more than \$5 million to boost

WHAT BILL REILLY

KEY PROPERTIES OF K-III COMMUNICATIONS

MAGAZINES *New York*, *Seventeen*, *Premiere*, *Automobile*, *Soap Opera Digest*

NEWSPAPERS *Daily Racing Form*, *Wall Street Journal* (newspaper, periodicals, and

BOOKS Funk & Wagnalls encyclopedias, Newfield children's books

1992 REVENUE \$778 million

INCOME \$125 million*

* Income represents earnings before interest, depreciation and amortization of debt

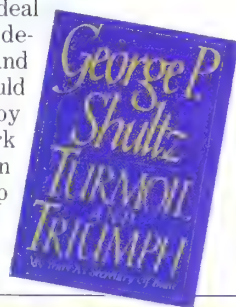
tribution and promotion of *Soap Opera* *daily*. Once such investments start rolling off, Reilly is sanguine that K-III will gain earnings momentum. He'll certainly need strong results to justify a purchase as big as Macmillan. The Waterhouse, which is overseeing the sale on behalf of Maxwell's creditors, hopes to fetch between \$700 million and \$1.1 billion for Macmillan and Official Airlines Guide, a provider of airline schedules and fares that was also owned by Maxwell. On May 11, Price Waterhouse announced it had signed a letter of intent to sell OAG to Anglo-Dutch publisher Reed Elsevier PLC for \$425 million. The company will consider formal bids for Macmillan some time in June.

CE BIDDING. The publishing house could go for as much as \$700 million, says Texas billionaire Robert M. Bass. Paramount Communications Inc. are among the wealthy players who may bid fiercely. Paramount is especially interested in Macmillan's children's and college book divisions. The company won't comment, and Reilly is mum about what he may offer.

Whatever he bids, he'll probably need more of his financing in the form of equity, according to industry executives. Assuming a price of \$700 million, Reilly would have to arrange for \$175 million in KKR and \$525 million in debt. K-III has total debt of \$700 million. With \$500 million more in borrowing, 66% of K-III's total capitalization would be debt, compared to its current 52%.

Some investment bankers think KKR will be leery of a deal that requires so much equity. KKR's Henry R. Kravis has been a champion of Reilly's in the past, but that doesn't mean he'll break the bank to make a deal this time. KKR declines comment. And Reilly says he would be just as happy going to work for Macmillan as he is his grasp on it. Honest.

Mark Landler
New York



WHAT HE'S AFTER

PROPERTIES OF MACMILLAN INC.

NS Adult (trade, college, reference);
; P.F. Collier encyclopedias

S Macmillan, Atheneum, Charles
Sons

HOLDINGS 50% of Macmillan/
Hill School Publishing Co.

VENUE \$673 million

\$62 million

DATA: COMPANY REPORTS, BUSINESS WEEK



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BACK-SCRATCHING ON THE STREET

Municipal-bond dealers may be too close to local government officials

For decades, Wall Street investment bankers and state and local politicians have enjoyed a mutually beneficial relationship. Politicians dispense more than \$1 billion in taxpayer dollars a year to the Street in fees to underwrite municipal-bond issues. The Street, in turn, sends politicians millions in campaign contributions. Some critics have termed the arrangement institutionalized back-scratching.

Now, these cozy bedfellows are coming under increasing scrutiny. The U.S. Attorney's office and the Securities & Exchange Commission are looking into whether Merrill Lynch & Co. bestowed financial favors on a tiny Clementon (N.J.) brokerage to win \$2.9 billion worth of New Jersey municipal-bond business. At issue is whether the firm, Armacon Securities, helped Merrill get business through Armacon's part owner, Joseph C. Salema, who happens to be New Jersey Governor James J. Florio's chief of staff. All parties deny any wrongdoing or that they are targets of the investigations. Salema has said his Armacon stake is in a blind trust.

LITTLE RESTRAINT. Similar incidents have been coming to light around the country. "State and city legislators develop relationships over decades with firms or friends that involve campaign contributions and support; these get rewarded with contracts or deals," says Robert B. Lamb, professor of finance and management at New York University's Stern School of Business. The main reason for such incestuousness isn't very surprising: Unlike corporations, state and local muni issuers are unregulated, except in extreme situations of fraud. Typically, issuers don't even have to establish criteria or provide reasons for choosing underwriters. Underwriters' activities, in turn, are regulated mainly by the Municipal Securities Review Board, an obscure Washington self-regulatory group without enforcement powers.

Politicians and the industry are feeling the heat to clean up their act. On May 4, Florio signed an executive order requiring that underwriters for future



CONFLICT OF INTEREST?

Many politicians have interests in private firms that do business with government. Atlanta Mayor Maynard Jackson controls a brokerage house that may have benefited from an Atlanta municipal-bond underwriting. After public criticism, Jackson said the firm would discontinue muni deals. Willie Brown, speaker of the California legislature, is also a private muni-bond attorney and corporate advisor. Brown couldn't be reached for comment. Joseph Salema, chief of staff for New Jersey Governor Jim Florio, is part-owner of a brokerage firm that may have helped Merrill Lynch get muni business from the state. Federal prosecutors are investigating, but no charges have been filed. Salema denies any wrongdoing.

bond deals be chosen by open, competitive bidding instead of less public negotiation (box). Even some industry participants feel reform of the \$278 billion market is needed. "Given the complexity and evolution of the muni market, it may be time to rethink issues of market practices, market structure, and market regulation," says one public-finance

banker at a major Wall Street firm. Several common industry practices may receive more attention. One particularly legal practice is for investment bankers to obtain muni business, to political consultants who have close ties to elected officials—without public disclosure. And in many cities, politicians are even allowed to head their own

ial firms while they are in office. Insider Jackson Securities Inc. In 1989, just after he was elected mayor of Atlanta, Maynard H. Jackson purchased a 75% stake in a brokerage firm then adopted his name. Jackson had making more than \$500,000 a year, bond lawyer, and he viewed the investment as a way to supplement his \$100,000 city salary. The city's Board of Commissioners issued a confidential opinion on the relationship. Jackson won't discuss the opinion. But he says he told the firm not to do business with Atlanta that "anyone who would do business with us also would have to agree not to do business with Atlanta."

SULTANT COUPS. In early 1991, however, Jackson says Miami investment banker Howard V. Gary invited his firm to help sell an \$8 million bond issue for a Duval County (Fla.) agency. Two months later, Gary's firm was chosen as a co-manager of a \$27 million bond underwritten by the city of Atlanta, a decision Jackson approved. The deal produced a wave of public criticism. Jackson says he didn't tell Gary he was involved in the bond sale, adding that "he broke his word to us" about not doing business with Atlanta. Gary declined to comment. Jackson also announced his firm would no longer do any muni business as long as he remained in office. "It's important to me both the perception and the truth be told, to have no accusation," he says.

Another politician with feet in both government and business is Austin, Texas City Council Member Louise Epstein, who is the owner of Peleton Capital Group Inc., a small firm that gives financial and investment advice to governments. Epstein, though, has found it difficult to mix business and her \$30,000-a-year public job. "I had to go all the way out to West Texas to find a client where I didn't have a conflict." She is urging government to devote herself full time to her company.

Willie L. Brown Jr., speaker of the California Assembly, has a thriving and controversial parallel career. He is a union-bond attorney and advises corporate clients on state legislation, a business that nets him more than \$100,000 annually, according to state Fair Practices Commission filings. Brown could not be reached.

Another accepted muni practice is for investment banks to hire political consultants to help obtain underwriting assignments or to gather intelligence. Goldman, Sachs & Co. employed Rahm Emanuel in 1991, who says he did political analysis before he became President Clinton's political director. Another Goldman hire: James H. Quackenbush, a North Carolina lawyer and well-connected Democrat. One PaineWebber Inc. consultant until recently was Charles Ci-

BEHIND CLOSED DOORS: THE PRIVATE BIDS FOR PUBLIC FUNDS

Travelers on the New Jersey Turnpike must traverse one of the most unlovely spots on the planet—a massive oil-refinery complex with a memorable aroma. But there's another stink lately along the Garden State's storied thoroughway. It surrounds the New Jersey Turnpike Authority's 1991 and 1992 sale of six bond issues worth \$2.9 billion. None of the bonds was sold through competitive, public bidding by Wall Street underwriters. The authority negotiated the bond sale with underwriters—and touched off a full-blown scandal. Amid suspicions of kickbacks and favoritism, federal prosecutors have launched a probe.

Trouble is, avoiding competitive bids is standard practice, both in New Jersey and around the country (chart). Last year, only 10% of the bonds issued by New Jersey or its authorities were publicly bid. Nationally, a mere 19% were. And that's a trend: In 1980, 41% of all muni bonds went through competitive bidding.

Critics argue that competitive bidding saves issuers money and reduces the likelihood of improprieties. Government bodies solicit bids from underwriters and simply select the one offering the lowest interest rate and fee. "You don't have to pay off anyone if it's competitive," comments Richard Lehman, head of the Bond Investors Assn. in Miami Lakes, Fla. "Competitive bidding should be compulsory."

HOMETOWN TILT. New York State requires all its bids to be competitive, except in extraordinary circumstances, such as a very complicated issue that buyers might spurn unless the underwriter has the right marketing savvy. That has happened only twice, in 1986 and 1992. New Jersey Governor Jim Florio, smarting from the scandal that has enveloped his chief of staff, adopted New York-like strictures on May 3—and went beyond New York by extending them to independent bodies like the turnpike authority.

Most states and localities, though, agree with Wall Street that negotiated deals usually make more sense. Typically, they solicit proposals on how in-

vestment firms would structure a deal, then choose the best, but not always the cheapest, plan. Fees on negotiated deals average \$9.35 for each \$1,000 bond vs. \$8.99 for competitive deals. That doesn't look like a huge difference, yet it amounts to big money on multimillion-dollar transactions.

When a deal is complex, Wall Street argues, the usually higher fees afforded by negotiation are necessary for underwriters to stir customer interest. "The more complex the story, the more work underwriters face explaining it to investors," says J. B. Kurish, research director at the Government Finance Officers Assn. An airport authority, for instance, might disconcert investors if it were funded by multiple revenue streams—maybe a fee on taxis and a levy on hotels—instead of one easy-to-understand source. And increasingly, muni deals involve exotic financials, such as interest-rate swaps, making for an even tougher sales pitch. "Be-

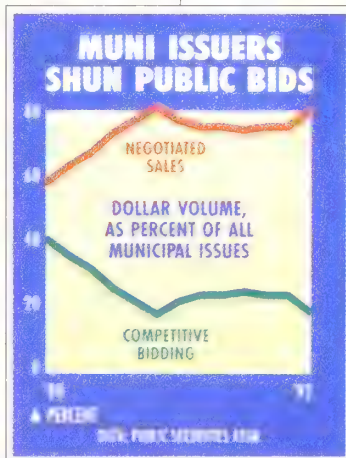
sides," says Heather L. Ruth, president of the Public Securities Assn., a Wall Street trade group, "corporate issuers don't use public bidding."

Municipal officials say privately that they have altruistic reasons for favoring negotiated deals, too: They are easier to tilt toward disadvantaged groups, such as underwriting firms that are owned by minorities, women, or disabled veterans.

And also toward hometown firms that lack Wall Street heft, but who employ local folks. That's where politics can creep in.

Certainly, mandating that all bids be competitive is no magic cure for hanky-panky. Through the years, there have been numerous scandals involving corrupt public officials rigging competitive bids. One dodge is to leak the competition's bids to a favored underwriter, then secretly slip in his low bid after the deadline. To combat this, the state of Texas set up a special board five years ago to review all bond issues. That's one way to stop the politically connected from collecting municipal manna.

By Larry Light, with Leah Nathans Spiro in New York



trin, a fund-raiser for Joe Gersten, a former Dade County commissioner. Citrin helped drum up bond work in South Florida for PaineWebber. Other firms, such as Morgan Stanley & Co., have a policy of not hiring consultants.

Consultants often prove very effective. "To the firm, consultants are worth their weight in gold because, 'He got us into Michigan' or 'We wouldn't have gotten this or that business unless this guy was hired,'" says NYU's Lamb.

CLOSER SCRUTINY. Some states, though, are taking a harder look at Wall Street's helpers. Two years ago, the Massachusetts State Treasurer's office asked all brokerage firms it did business with to disclose their political consultants. The move came in response to a scandal in 1991 involving a longtime adviser to the state's pension funds who was also a consultant to Aetna Life & Casualty. Without always disclosing his Aetna affiliation, the adviser used his clout to persuade numerous municipal pension boards to invest millions with the insurance firm. "I've viewed it as a big problem that's been widespread," says State Treasurer Joe Malone. "The system has been that if [an investment firm] wanted to play, it had to hire the right consultant." To resolve the issue, Aetna voluntarily paid \$8.8 million to some of the pension boards.

One of the reasons such practices flourish is that under the 1975 Tower amendment to legislation that set up the Municipal Securities Rulemaking Board, muni-bond issuers, unlike corporations, cannot be subject to the SEC's disclosure requirements. The MSRB, which is run by a board of industry and public volunteers, only handles rulemaking and arbitration for muni dealers. "The MSRB has a limited role and has no jurisdiction over the issuer community, which is not regulated in any way," says Barbara Lucas, a partner at Cadwalader, Wickersham & Taft.

A few states such as Florida have passed legislation to toughen requirements on bond underwriters. Yet considering the huge benefits to politicians and underwriters under the current system, incentive for change is limited. "Fighting this one is like taking on the National Rifle Assn.," says Richard Lehmann, president of the Bond Investors Assn. in Miami Lakes, Fla. "But I guarantee it has a cost to the public because the issuer will end up paying more." More disclosures, though, could force the politicians and underwriters to start scratching their own backs.

By Leah Nathans Spiro in New York, with Larry Light in New York, Chuck Hawkins in Atlanta, and Geoffrey Smith in Boston

BRITAIN

GOLDSMITH SHOULD NEVER HAVE GONE FOR THE GOLD

The 1990 swap with Hanson turns in disappointing profits for Sir Jim

Who gets the upper hand when two of the world's top deal-makers swap companies? Back in 1990, Lord James Hanson traded his 49% stake in Newmont Mining Corp. to his old friend, Sir James Goldsmith, for the Anglo-French financier's 1.7 million acres of timberland held by Cavenham Forest Industries Inc. From the beginning it seemed clear that one of these investment pros would come up short. After all, prices of timber and gold are driven by economic countercurrents.



GOLDSMITH: HIS APOCALYPTIC VISION OF ECONOMIC DISASTER NEVER MATERIALIZED

Now it looks as if Goldsmith placed the wrong bet, while Hanson's move into timber has turned up aces. In the 2½ years that Goldsmith, along with Lord Jacob Rothschild, has held his stake, Newmont has returned about \$50 million in dividends, a paltry 1.5% annual yield on the \$1.3 billion tied up. Admits Kenneth S. Richards, a director of Goldsmith's General & Oriental Investments Ltd.: "The cash flow certainly hasn't been as good as timber."

SUDDEN INTEREST. That's an understatement. Just look at Cavenham. It's churning out more than \$100 million in cash a year. Buoyed by a tentative U.S. recovery and environmental restrictions on cutting that have helped lift prices, Ca-

venham should report \$134 million in operating profits this year, up 33% from last year. "We've been delighted" with the investment, says Hanson PLC Chairman Martin G. Taylor.

Goldsmith tripped up largely because his apocalyptic predictions of economic disaster never materialized and timber failed to lift the price of gold—and Newmont profits. In late April, Sir James and Rothschild reduced their stakes in selling shares at \$39.50 each—their peak value when the original trees-for-gold swap was struck. The buyer: big-time investor George Soros, whose sudden attraction to gold helped fire up gold prices, sparking a rise from \$341 an ounce to nearly \$360 within three days. The action helped boost Newmont shares into the forties and gave Goldsmith and Rothschild a window to sell more shares at \$44.50. Altogether, the sales brought \$690 million, and Goldsmith still holds 19.5% of Newmont and Rothschild 2.

Now in semiretirement from the timber over world, Goldsmith recently has had a spotty track record—failed raids on two big British companies, BAT Industries PLC and Ranks Hovis McDougal PLC. "He's pretty disillusioned with takeover bids," says one source. But despite the Newmont sales, he still believes in gold's inevitable rise and is buying gold options and futures, which are more sensitive to gold sentiment. (Goldsmith didn't return phone calls.)

COAL TRADE. At Hanson, the word is on natural resources. Moving away from its longstanding industrial and consumer products base, Hanson has been buying huge supplies of coal and aggregates along with timber. In 1992, \$4.4 billion in sales, or 28% of the total, came from natural resources, accounting for 31% of profits. Now, Hanson is wrapping up plans to swap its remaining gold investments to Santa Fe Pacific Corp. for its timber properties, valued at \$500 million.

For Goldsmith and Lord Hanson, who once collaborated on the failed takeover of Goodyear Tire & Rubber Co., it's a sharp divergence of views. Hanson is betting on recovery to boost his resource and industrial holdings, while Goldsmith is still gambling on economic trouble to bolster gold. Clearly, both can't be right.

By Richard A. Melcher in London

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A MIRACULOUS RECOVERY FOR NO-NAME DRUGS

Expiring patents and health-care reform point to a rosy future

Only a couple of years ago, there seemed to be nothing the generic-drug industry could do right. It was reeling from revelations that one company was submitting doctored brand-name drugs in new-product applications to the Food & Drug Administration. Another was found to be bribing FDA examiners. Amid all the bad news, investors stayed away in droves, even from the straight-shooting outfits.

Now, however, the copycats are surging back. Investors who expect money-saving generic drugs to play a central role in health care are dizzily bidding up prices again. An index of seven generic stocks hit an all-time high in January—more than double its early 1991 level—and, after dipping in recent months, it has again turned upward. Says John H. Klein, chief executive of Zenith Lab-

oratories Inc., a small New Jersey-based generic manufacturer: "This industry has rebuilt itself."

oratories Inc., a small New Jersey-based generic manufacturer: "This industry has rebuilt itself."

go off patent. Among them: such giant products as SmithKline Beecham PLC's ulcer treatment, Tagamet, and Bristol-Myers Squibb Co.'s blockbuster antihypertensive, Capoten. If the generic makers can capture just a third of the formerly branded-product dollars—a reasonable goal, since generics typically sell for half or less than branded items—they will be awash in cash.

The industry is sure to get a boost from Washington. Whenever the Clinton health-care reforms go into place, they will almost surely favor low-price generic substitutions for off-patent drugs. Already, generics account for well over half the new prescriptions filled for some ailments,

some 20 drugs in the next two years. Mylan's sales in fiscal 1993, ended March 31, hit \$212 million and should rise 3% in 1994, to \$275 million. Earnings could vault to \$84 million next fiscal year from \$70.6 million in 1993.

For all the growth ahead, price competition will narrow margins among companies that rush to market with copies of such megadrugs as Tagamet. Says PaineWebber Inc. health-care analyst Tina Rizopoulos: "You want to invest in areas where generic companies can create a market dominance, a market franchise."

MIST OPPORTUNITY. The best performers will likely be niche players. Companies that specialize in producing hard-to-copy drugs or dominate certain therapeutic segments should have a leg up. A.L. Laboratories, for one, is drawing a lot of notice from analysts who like the company's franchises in liquid medicines and over-the-counter generic drugs. It markets an antidiarrheal that competes with Johnson & Johnson's Imodium A-D. On May 6, the company won FDA approval to market Epinephrine Mist, a generic equivalent of Primatene Mist and Briskaid Mist. A.L. Labs' sales should reach \$350 million this year, up from \$290 million in 1992. Earnings from continuing operations could move from \$11

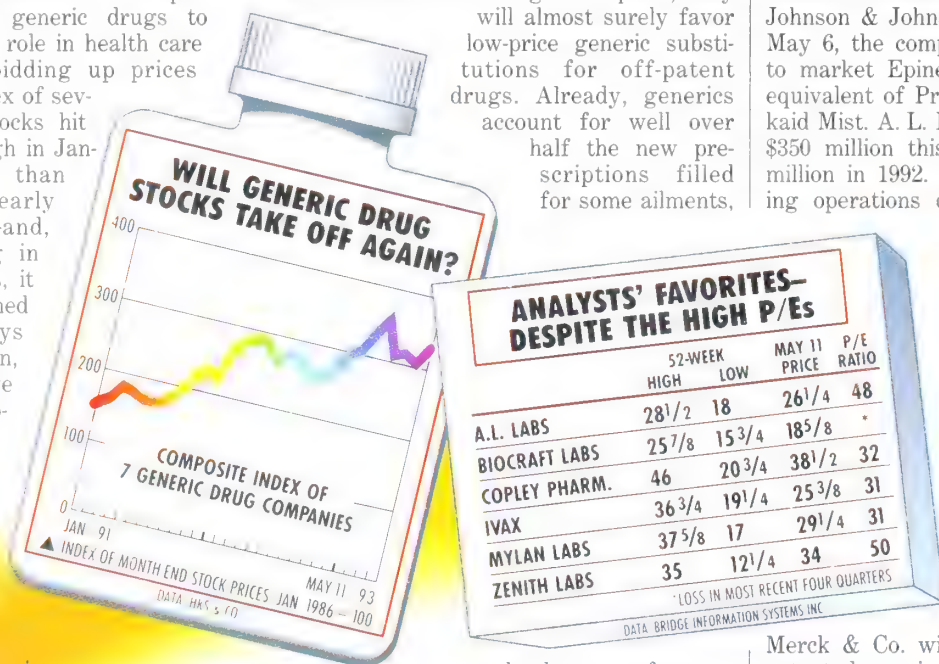
million last year, between \$17 million and \$20 million, says independent drug analyst Hemant K. Shah.

Generic houses to be sure, will have the field to themselves. Many big drug makers already are in the business, and they are stepping up operations.

Merck & Co. will be producing 11 off-patent drugs in a new generic subsidiary, West Point Pharma. And American Home Products Corp. announced on May 10 that its newly formed ESI-Pharmaceutical unit will sell a broad line of generics, starting with a lookalike of rival Upjohn Co.'s synthetic-hormone drug, Provera, for treatment of abnormal bleeding. Generic makers contend that their rivals can't move quickly enough to predict the big houses' overhead and hobble them.

Still, competition will surely intensify and margins will surely narrow. But the market for generics is expanding so fast that the copycats could still be in the driver's seat for years to come.

By Joseph Weber in Philadelphia



thanks to preferences given by insurers and managed-care providers. In growing numbers of private and public programs, usage of generics may well become mandatory.

Regulatory problems that hobbled the industry, too, seem behind it. The FDA scandal so overwhelmed the agency that approvals of generic applications slowed sharply. The FDA has reorganized the unit that approves generics. Along with mandating tighter oversight, it has broken the logjam on new approvals and is cutting deeply into a backlog of applications. "Things had really slowed," recalls Roy McKnight, CEO of Mylan Laboratories Inc. The Pittsburgh-based drugmaker hopes to get approval for

AWASH IN CASH. Time for investors to move to the sidelines? Probably not. Although the stocks of most generic makers are selling at price-earnings ratios well above the overall market average of 23, the prospects are so favorable that revenues and profits should roar ahead for some time. Over the next five years, branded drugs worth nearly \$20 billion a year in sales are expected to

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KUMAGAI'S TOWERING LOSSES

Japanese banks may force it to sell a slew of U.S. properties

Few Japanese companies have suffered more from the U.S. real estate slump than Kumagai Gumi Co. Its mammoth, coral-granite Americas Tower on New York's Avenue of the Americas is 35% vacant. Almost all of the office space in its nearby hotel complex sits empty. And Kumagai's troubles are not limited to New York. A huge office tower in Seattle that cost \$165 million to build is now worth about half that. One real estate consultant who worked on many of Kumagai's U.S. deals says, with only slight hyperbole: "Their asset value has totally disappeared."

With Kumagai's financial condition deteriorating rapidly, Sumitomo Bank Ltd. and Long-Term Credit Bank of Japan Ltd.—two of Japan's most powerful banks and Kumagai's biggest creditors—have installed officials in key posts at the giant contractor. The action is the latest indication that Japan's banks are moving aggressively to unload bad loans and properties acquired overseas by Japanese companies in the heyday of the 1980s "bubble economy." That means more Japanese companies will be swallowing big losses. "They'll be getting dimes on the dollar," says one New York consultant. And possible wholesale dumping of Japanese properties could be more bad news for the still depressed U.S. commercial real estate market.

BURST BUBBLE. Kumagai's new management faces a daunting task. Once a small contractor in a backwater on the Sea of Japan north of Osaka, Kumagai grew explosively in the 1960s and '70s. It did well until cheap money in the bubble days—much of it supplied by LTCB—lured it into a slew of major projects in Australia, Britain, and the U.S. With a staggering \$6.3 billion in debt, Kumagai was clearly in over its head. "They started to cultivate over-

seas business as if managing overseas risk was as easy for them as managing risk in Japan," says Etsusuke Masuda, a construction analyst at Salomon Brothers Asia Ltd.

The U.S. real estate slump has made Kumagai an unwilling landlord, stuck with unsalable properties and unplanned-for debts. In New York, Kumagai has been forced to offer lower-than-expected rates to find tenants for its

office buildings. While Kumagai managed to lease 95% of two buildings in the Los Angeles area, its AT&T Gateway Tower in Seattle is about half empty. The company won't provide figures but admits it has been losing money overseas for three years.

The bankers from Sumitomo and others are busily trying to restructure Kumagai's operations. They will be pushing the company to raise cash quickly, that means selling overseas properties at substantial losses. In return, the banks will likely provide Kumagai with some fresh loans or interest-rate concessions. To ease its cash problems, Kumagai has already sold off some of its assets. Earlier this year, it got \$85 million for most of its stake in a highly successful affiliate, Kumagai Gumi (Hong Kong) Ltd.

"RALLY AROUND." And the intervention at Kumagai is likely to be a model for other banks as well. "Kumagai Gumi has grabbed the headlines because they are one of the largest, but they certainly aren't going to be the last one to get help," says Graeme Donald, an analyst at James D. Kuhn, Pel Pacific Ltd. Indeed, another troubled construction giant, Ishikawa Corp., already has three bankers on board from Sumitomo Bank Ltd.

Yet while Dai-Ichi Kangyo Bank Ltd., Bank of Tokyo-Mitsubishi and other Japanese lenders have begun foreclosing on real estate loans to U.S. companies, they won't be as harsh with Japanese borrowers. "Japanese investors expect banks to rally around and take care of a company," says Stewart Matthews, a banking analyst for SBCI Securities (Asia) Ltd. And as Japanese banks move forcefully to unload their losses, a property selloff should eventually help the U.S. market. Currently, loans are at much higher levels than the market value of buildings. "In order to get the office market to recover, the product has to be repriced," says James D. Kuhn, president of Newmark & Co., a New York real estate broker.

But over the near term, U.S. commercial real estate owners are very likely to find that the financial problems at Kumagai and other Japanese property owners will turn into just another chapter in a long series of head-

*By Larry Holyoke in Tokyo
Bruce Einhorn in New York,
Joyce Barnathan in Hong Kong*



KUMAGAI'S AMERICAN PROPERTIES

AMERICAS TOWER Office building, New York	THE ACADEMY Office building, Los Angeles
HOLIDAY INN CROWNE PLAZA Hotel/office complex, New York	THE TOWER Office building, Burbank, Calif.
WORLDWIDE PLAZA Mixed-use complex, New York	AT&T GATEWAY TOWER Office building, Seattle
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BY GENE G. MARCIAL

A NEW TWIST ON BLACKJACK SWEETENS THIS POT

For a stock that many had assumed would be a highly speculative bet, slot-machine maker International Game Technology has emerged as a pillar of steady, robust growth since the late 1980s. The stock has risen from 10 a share early last year to 33¼ on May 11 and has given the shorts nothing but the heebie-jeebies. They have been forecasting a big fall for IGT, and now they may have to suffer more sleepless nights, since the company seems destined to hit more jackpots.

The next one will come on May 20, when IGT will unveil its new blackjack "jackpot" gaming system called Progressive 21 in Atlantic City. For the first time, blackjack players will get a chance to win large jackpot prizes for a \$1 wager. The new game is played on a custom-designed table with a special "chip acceptor" next to the regular betting area. IGT will link 74 jackpot tables in nine casinos. A player can plunk down \$1 to participate in Progressive 21 while playing ordinary blackjack with the same cards. The player wins \$2 when one of the first two cards dealt is a five. Two fives of the same suit wins \$50. Four fives of the same suit gets you to the grand prize of \$200,000, and the pot can rise to more than \$1 million if there are no big winners for a long time.

Progressive 21 will be IGT's "next big draw and bottom-line winner similar to IGT's Megabucks system that helped propel the company's profits to great heights," says Chairman and CEO Chuck Mathewson.

Veteran entertainment and gaming analyst Steve Eisenberg at Oppenheimer & Co. says IGT's leading industry position has been "further augmented by its recent entry into Japan," which approved IGT's bid to make Pachisuro devices—the Japanese wall-mounted version of reel-spinning slot machines.

ON THE RIVERBET. Japan will be a big market, but it's only one of the rich markets IGT will be breaking into, says Eisenberg. He notes that much potential lies in other parts of the Far East and South America.

Based on IGT's break into Japan, the analyst has raised his earnings estimate for the year ending Sept. 30,

IGT IS STILL ON A WINNING STREAK



1993, to 85¢ a share from his prior 79¢. For fiscal 1994, the analyst sees \$1.35. But he notes that he has yet to factor into his 1994-95 estimates the earnings expected from new IGT casino customers in Canada, Indiana, and Texas, as well as the riverboats in Chicago and video lotteries in Massachusetts. "With the company just at the beginning of a 40% annual growth, the upper 40s is within easy reach for this stock," Eisenberg says.

ZAPPING SCUDS, SAVING LIVES

In the aerospace business, Special Devices is known as the company that supplied the initiator, or the trigger, for the Raytheon-built Patriot missile that became a big hit during the Persian Gulf War. Now the company, whose aerospace operations account for 58% of sales and all operating profits, wants to expand its other business: initiators for auto air bags.

Some investors believe the big switch will give Special Devices a badly needed new image—and better Street following. With much of the aerospace industry in a slump, Special Devices has lagged behind the market, at 9¼ a share, almost where it was when the company went public on Aug. 7, 1991.

Stan Trilling, a first vice-president at PaineWebber Inc. in Los Angeles, believes the stock is cheap. The company is currently the third-largest supplier of initiators to air-bag makers. The initiator is the trigger that makes a sensor explode the charge to inflate an air bag. Trilling notes that Special Devices' air-bag unit turned profitable

this year and will help boost fiscal 1993 earnings to 45¢ a share, and to 70¢ next year, vs. fiscal 1992's 25¢. Trilling sees the stock doubling in a year.

Analyst James Spencer at Werthe & Schroder figures that Special Devices initiator sales will approach \$50 million by 1996-97, as TRW, which makes air bags for General Motors, follows through on its contract to buy some 75% of its initiators from Special Devices. The company was also chosen by Atlantic Research to supply initiators for its air-bag inflators manufactured by Bendix Atlantic Inflator for certain Chrysler vehicles.

RIDING ON AIR WITH AIRLESS TIRES

Only one thing is pushing up the shares of Urethane Technologies—and it isn't earnings. The company has yet to make a penny. What's firing up the stock that has bounced from 6 a share in early December to 13½ on May 11 is a bicycle tire—the tubeless, airless type.

"There seems to be heavy accumulation of Urethane's shares in recent days, and they have been rising on increasing volume—a very positive signal," says Mark Leibovitz, who edits the market newsletter *Volume Reversal Survey*. "Our charts indicate that the stock could rise as high as 22 over the short-term."

The company doesn't actually produce tires, but it has developed specially formulated liquid-chemical compounds and manufacturing equipment for making certain polyurethane-based products. Among them: a nonpneumatic, or airless, bicycle tire with a foam inner core that, insists the company, rides virtually the same as pneumatic tires and lasts longer.

Urethane sells the polyurethane compounds and casting equipment to tire makers such as Green Tyre in Britain. Urethane has also signed a licensing agreement with Fore Better International Development of Taiwan for exclusive production rights using Urethane's airless tire technology in Taiwan, Shanghai, and other nearby provinces in China. Fore Better has taken a 3% stake in Urethane, worth \$2 million.

"We are in talks with other tire makers for licensing agreements in other parts of Asia and Europe," says Chairman and Treasurer Jim Frakes. He says if all goes as planned, the company will be in the black by the end of this year.



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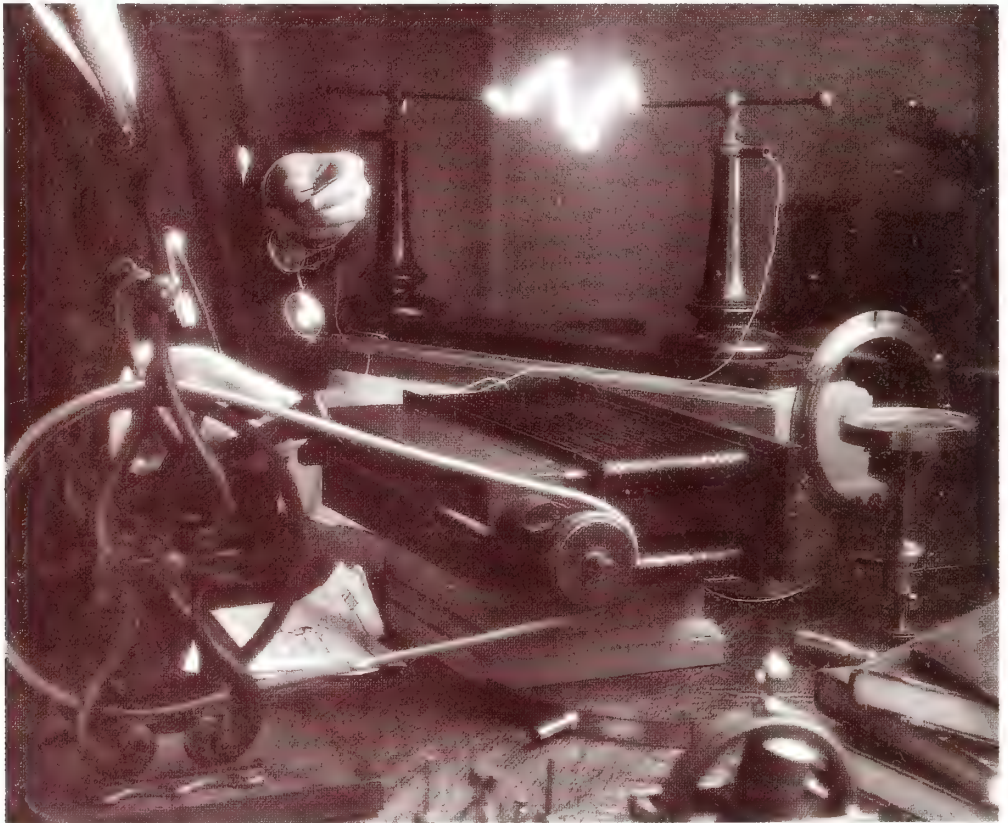
CASH FLOW	SFR M	2,955
NET PROFIT FOR THE YEAR	SFR M	1,028
SHAREHOLDERS' EQUITY	SFR M	9,495
RETURN ON EQUITY (ROE)		11.7%

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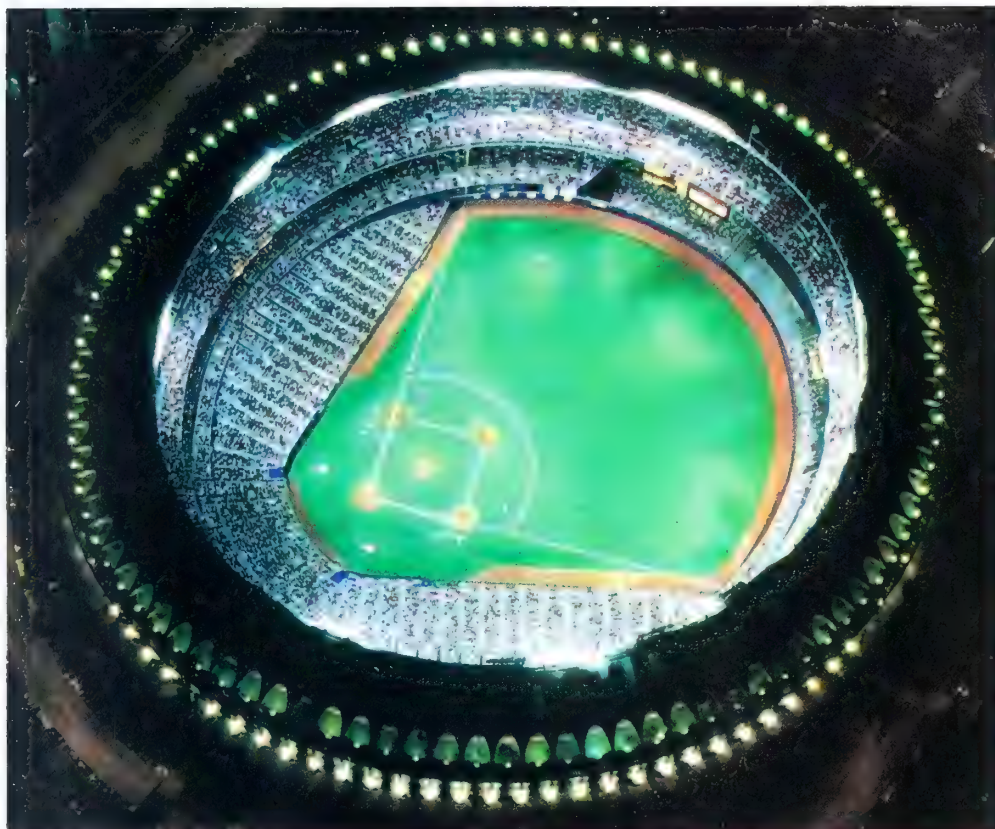
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AGAIN, IBM DIVIDES TO CONQUER

Its high-tech media empire is the latest unit to be dismantled

If a cumbersome system of central planning couldn't keep IBM on top of well-established markets, how could such a setup move Big Blue into new frontiers? More precisely, could a 1,000-employee empire reporting to a single vice-president in White Plains, N.Y., figure all the ins and outs of the phenomenon known as multimedia—a digital brew of computers, video, telecommunications, publishing, and entertainment?

Probably not. That's why the empire, established in 1990, is being dismantled. Lucie J. Fjeldstad, the hard-charging corporate vice-president in charge of multimedia, is taking apart her domain. A year ago, it included engineers devising ways for IBM computers to manipulate video, programmers inventing new forms of interactive entertainment, and executives scouting multimedia deals. They've been dispersed to startup-style IBM units worldwide. Says Fjeldstad: "I've been spinning off my children."

At this stage, Fjeldstad's kids are simply trying to find their way into the digital future. But creating these tiny pseudo-startups may be the best way to identify the next billion-dollar opportunity. "I don't see a clearly defined multimedia strategy from IBM. That seems like a smart approach," says Bruce R. Ryon, who recently left Apple Computer Inc. to track multimedia for Dataquest Inc.

MINIMIZING RISK. The multimedia reorganization mirrors the companywide overhaul that split IBM into 13 Baby Blues in 1992. The analog to IBM headquarters is Fireworks Partners, a Somers (N.Y.) holding company formed in January. It includes some of Fjeldstad's projects and has about \$50 million in venture capital to invest in startups and joint ventures. To minimize risk, IBM will align with partners and hold only minority stakes. If some of these really take off, IBM could get rich. "People have

said: 'Gee, [with the IBM PC] you created these very successful businesses—Intel, Microsofts, those kind of folks,'" says Robert L. Carberry, the IBM veteran who is Fireworks' president. "I didn't you participate in their exponential growth?"

With the old system, IBM had trouble getting its multimedia projects going. For instance, it held talks with Time Warner Inc. and Tele-Communications Inc. last year to build an interactive cable-TV system. The talks were ended as IBM's top brass focused on mounting internal problems. Plans for cable are now on hold, Fjeldstad says.

And the IBM multimedia projects that came to market haven't been hits. An ambitious series of videodisks for schools, entitled *Columbus: Encountering Discovery & Beyond*, cost more than a million to produce but sold only about 2,000 copies at \$2,000 a pop, estimates Rockley Miller, publisher of *Multimedia & Videodisc Monitor*. A big problem was the use of videodisks instead of the increasingly popular CD-ROM format.

Rather than shy away, IBM is redoubling its efforts. One semi-autonomous unit, the 50-employee IBM Multimedia Publishing Studio in Atlanta, is aggressively buying electronic rights to properties such as interviews and "other unclosed material" from *Playboy* magazine. Fireworks Partners is sponsoring efforts to deliver multimedia information to industries ranging from real estate to music recording to TV news. And IBM

WHERE MULTIMEDIA IS EMERGING AT IBM

IBM'S MULTIMEDIA PUBLISHING STUDIO in Atlanta has a business plan to be spun off from Big Blue. It's creating CD-ROM titles, including one based on audio and images purchased from the Biosphere 2 project.



FIREWORKS PARTNERS, a new venture-capital effort, is investing some \$50 million in a portfolio of business multimedia projects—like this system for shopping for homes via computer.



IBM'S WATSON RESEARCH LAB is selling special computers and software to producers of movies and advertisements—such as this one for AT&T.



is funding an ambitious multimedia project that covers the history of the continent.

There's also a high-profile Hollywood head. IBM has invested \$10 million in a digital production studio. Called Digital Domain, it's headed by Termini-

er 2 producer James Cameron, who will produce all of his special effects and effects for the next five years. The studio's president is Scott A. Ross, former general manager of the special-effects shop Industrial Light & Magic. Ross has produced film characters featured in the studio also generate income from video games, T-shirts, and TV commercial licensing deals.

ACT SELLING. IBM sees big opportunities to sell hardware and software to manipulate all those digitized bits of sound and image. IBM's Watson Research Laboratory in Hawthorne, N.Y., has developed a graphical supercomputer called Power Visualization System, which uses 32 of the chips used in IBM's RS/6000 workstation. A team of 60 engineers is selling the \$500,000 setup to studios and ad agencies—the first time IBM's esteemed research division has directly marketed technology.

So far, the Watson engineers have developed five systems to cutting-edge projection houses, which in turn provide producers with insight into the world of film. "We're learning what the market wants without an intermediary," says John Peled, head of software research at Watson Labs. The unit is not yet profitable, but its gear produced effects for Sylvester Stallone's new movie, *Cliffhanger*, and ads for American Telephone and Telegraph Co.

Eventually, IBM wants to spin off some of its multimedia efforts. Perhaps the first will be the Multimedia Publishing Studio, which is buying rights to material for CD-ROM products. CD-ROM

publishing looks like a promising market: The number of PCs with CD-ROM drives doubled last year, says Dataquest, to 2.8 million, and will likely double again in 1993. One forthcoming IBM disk for kids is based on exclusive video and audio clips culled from the Biosphere 2 project in Arizona.

Most of IBM's multimedia efforts are not nearly so ripe. It's not clear yet, for instance, what the demand will be for the software being designed by Kaleida, IBM's joint venture with Apple Computer. The company wants to create a universal format for running multimedia titles on many types of computers and

consumer electronics. But it hasn't locked up key industry support. Similarly, IBM has inked a deal with Blockbuster Entertainment Corp. to electronically transmit the data to press CDs on demand at record shops. The idea is to avoid losing sales when a title is out of stock—no matter how obscure. But cur-

rently, Blockbuster is the only big retailer to have signed on.

Some of these efforts could be swept away as IBM's new CEO, Louis V. Gerstner Jr., resets priorities. "The only issue [we have] with IBM right now is the uncertainty," says Robert Norton, president of HomeView Inc., a Needham (Mass.) company that's developing a system with IBM to allow realtors to give buyers PC video tours of homes.

Indeed, Fjeldstad's key remaining task is to secure Gerstner's support. She met with the new boss on May 3 "to educate him" on multimedia. She says she wasn't given any assurances but "[that] I got in there early with him is a good sign." With her empire fragmenting, Fjeldstad admits that her central-planning job is becoming obsolete. She's already moving on to other projects, including an exploration of interactive home-shopping technology with a big retailer. "IBM has learned the hard way that there isn't one business model for the entire industry," she says. Indeed, a multifaceted approach to multimedia may be the only way to go.

By Evan I. Schwartz in Hawthorne, N.Y., with Bart Ziegler in Somers, N.Y.

**FJELDSTAD STILL
MUST SECURE
THE NEW BOSS'S
SUPPORT FOR
MULTIMEDIA**

MULTIMEDIA

HISTORY FOR THE INTERACTIVE GENERATION

An IBM-backed project will pack 3,000 years onto eight disks

As a film student in Vienna in the early 1970s, Titus Leber wrote his doctoral thesis on a quirky technique for superimposing images. The method had first been used to evoke drama and motion in silent movies. "It was usually reserved for dream and madness sequences," Leber recalls.

These days, the fervid filmmaker is bringing together all the cinematic tricks he has mastered in the past 20 years—plus some new ones. Leber, 42, is mounting the most ambitious interactive multimedia project ever: telling the 3,000-year history of Europe on a series of eight CD-ROM computer disks. When completed, in 1995, people will be able to search through six hours of video, some 70,000 images, 2,500 maps, and 25,000 pages of text. Dubbed Eurodisc and funded in part by IBM, the project is turning the heads of those who specialize in this new electronic medium. "If Leber pulls this off, it will be a landmark event in publishing history," declares Peter R. Cook, head of creative services at Grolier Electronic Publishing Inc.

The Eurodisc effort also illustrates the complications and risks of the new medium. Not only must Leber secure rights to use photos, art images, film clips, and news footage, but he also must make all of it compelling for students and other consumers. The project's \$12 million budget puts it in a league with Hollywood movies rather than typical multimedia efforts, and in the tradition of independent filmmakers, Leber and IBM risk failure unless they can raise more financing.

MODERN ROYALTIES. IBM Europe has put up an initial \$1 million, and along with Leber, hopes to attract a partner, possibly French publisher Matra-Hachette, to form a pan-European electronic publishing company. Having seen IBM fumble multimedia efforts in the U.S. (page 134), European managers are determined not to fly solo in the new market. "We see in Titus a way to take a fast leap forward," says Haakon Skaarer, multimedia program manager at IBM Europe.

Leber's biggest leap may be his way around the industry's copyright conun-



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drum. Publishers usually pay ~~upfront fees—typically \$100~~ per photo and \$5,500 per minute of film—to reproduce material electronically. That would make Eurodisc untenable. Leber ~~proposes setting aside 10%~~ of sales for royalties to be split by agencies and other sources. Copyright holders at first were apprehensive, but Leber has won over a half-dozen key sources, including Paris photo agencies SIPA, Gamma, and Explorer. "We're taking a risk," explains Explorer Director Michel Bunz. "But fixing the value of electronic rights is so difficult that we have to show some imagination."

Leber was diverted to multimedia from making art films in 1984. That's when he won a fellowship to the Center for Advanced Visual Studies at Massachusetts Institute of Technology. One of his first efforts, called *Vienna Interactive*, lets users navigate the boulevards and museums of the old Hapsburg capital.

After seeing the Vienna disk in late 1991, IBM managers bought into Leber's ~~new~~ vision: a multicultural view of history that transcends traditional nationalism. To understand differing ~~historical views~~ of the 16th century, for example, a Eurodisc user will simply select from a menu the picture of Henry VIII, Martin Luther, or Pope Leo X to hear a narration or read quotations from his writing. "The idea is to break away from the tunnel vision of national history," Leber says. "SHOVELWARE"? ~~More like~~ *Vienna* to Paris. Leber went to work in an IBM high-rise, developing ways to guide viewers through three millenniums of information. The big risk is producing "shovelware"—disks loaded

with information that the user gets lost in an electronic maze.

To give Eurodisc a "spine," Leber is creating a data base of key historical and cultural images for every country as an entry point for each year. Selecting a portrait of Napoleon, for example, might



LEBER IN PARIS: EURODISC WILL LET USERS LEAP FROM MOZART AS A CHILD PRODIGY TO THE SHIFTING BOUNDARIES OF EASTERN EUROPE TO THE VARIED EVENTS OF 1791

lead you to France in 1804 and information on the Battle of Austerlitz. There might be a clip of the battle from Abel Gance's 1927 film, *Napoleon*.

Among Leber's cinematic tricks: a two-minute montage of rapid-fire images and music to present the highlights of each of 17 major periods. "History has to be hot if it's going to capture people of

the video generation," Leber says.

Making Eurodisc enough for schools and universities to pay up is another matter. The pricing will be at least \$110 per disk for a main overview disk and seven covering various regions. To stir up excitement among education ministers and public institutions, IBM Leber's company, Iconor, organized a Eurodisc presentation last June for 46 representatives, including some ambassadors, from European nations. Suddenly, doors swung open. Governments offered access to national archives. Germany, Greece, and Turkey proposed co-funding or sponsoring product tests in their schools. Meanwhile, Leber tapped contacts in the European Parliament to help back the Eurodisc for school curriculum. And he has aroused the interest of such potential distributors as Simon & Schuster Inc. in the U.S. and Decca Inc. in Japan.

Even so, IBM is trying to keep the sales modest. Skaare is hoping to sell 175,000 Eurodisc packages to schools and public institutions in five years, reaching a total of \$210 million. Leber insists that Eurodisc should publish more disks for popular topics whose numbers are expected to grow tenfold by 1995, to about 3.3 million units in Europe. Leber, however, prefers video because they are able to handle longer segments of motion video, the old fight between prod-

and director," says Leber.

One way or another, Eurodisc will be made, says Matra-Hachette executive Jean-Pierre Croset. The combination of Leber's vision and such a meaty subject, Croset says, should be a "turning point in the evolution of multimedia." That's if Leber and IBM can keep the new industry in focus.

By Jonathan D. Leber in Paris

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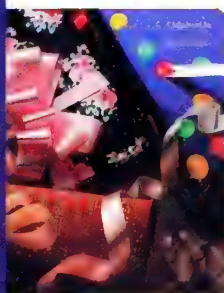
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A. Schulman Inc.

1

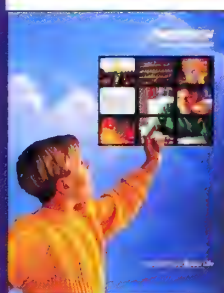


A. Schulman posted another record earnings performance in fiscal 1992. Net income of \$43.8 million established a new record for the tenth consecutive year. Worldwide revenues were \$738.9 million.

The Company is a leading international supplier of custom formulated, high performance polymer compounds utilized worldwide in a wide variety of products.

Ameritech

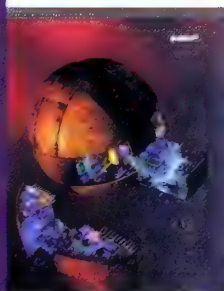
2



Ameritech provides full service communications and advanced information services to customers in the upper Midwest. Over the past nine years, Ameritech's return to average shareowners' equity averaged 15.3 percent before accounting changes—highest among any of the regional Bell companies. The cumulative total return on Ameritech stock during this period was 463 percent, 1.5 times S&P growth.

AMP Incorporated

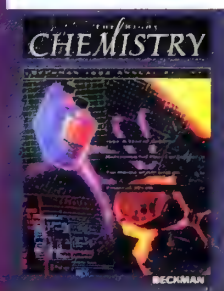
3



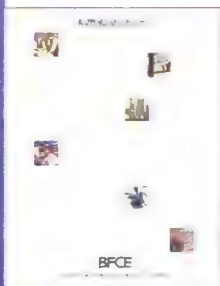
14% compound annual growth rate since 1956. 8% of sales spent in RD&E. Record \$3.3 billion sales, \$275 EPS in 1992. Sales, Good growth expected in 1993. Sales were up all but 4 of 51 years - with 80% of sales electronics-oriented and 70% of sales are products applied by AMP tools and machines. Broad Diversification: Leading producer of electrical/electronic equipment (over 250,000) and tens of thousands of customers who install this equipment. Subsidiaries in 31 countries. Strong worldwide capabilities. (NYSE:AMP)

Beckman Instruments, Inc.

4



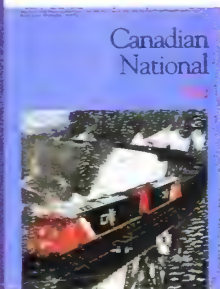
Beckman is a leading worldwide supplier of automated laboratory systems and supplies used for life sciences research, pharmaceutical manufacturing and clinical diagnostics. In 1992, productivity enhancements and new products helped boost net income 15% to \$43.8 million, or \$1.53 per share. Sales, paced by market share gains, rose to \$908.8 million.

Banque Française du Commerce Extérieur 5

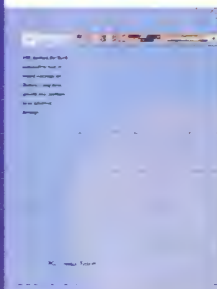
BFCE offers corporations diversified financing instruments as well as new and highly innovative products to manage their payments in France and worldwide. The Bank solves currency and interest rate risk management problems and provides a full array of investment instruments. BFCE is expanding services for merger and acquisition and equity financing, through its subsidiary, Société Financière de la BFCE.

Freeport-McMoRan Inc. 9

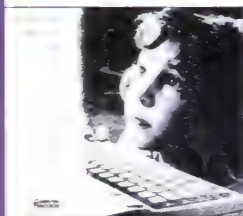
Freeport-McMoRan is one of the world's largest and lowest cost gold and copper producers with the largest single gold reserve and one of the five largest open-pit copper reserves. The company is also the largest integrated and one of the lowest cost phosphate fertilizer producers in the world. (NYSE: FTX).

Canadian National 6

Provides rail-based transportation and distribution services throughout Canada and the USA. As CN North America, operates a seamless rail freight service, Halifax to Vancouver, and south into Chicago, connecting to other rail carriers. Subsidiaries manage property assets, the CN Tower in Toronto, develop oil & gas holdings, market consulting and technology transfer services worldwide, produce transportation equipment.

Harsco Corporation 10

With operations in 36 states and in 12 other countries, Harsco is a diversified industrial company serving markets including the worldwide steel industry, construction, infrastructure, process industries, gas control and containment and defense. The Company's diversity affords a counter-cyclical balance that has contributed to its consistent profitability.

Computer Associates 7

Computer Associates is the world's leading software company offering more than 325 different software applications for virtually every kind of computer from mainframes to minis to PCs. With revenues approaching \$2 billion and offices in 27 countries around the

world, CA is the mission-critical software partner to more than 95% of the Fortune 500.

Incentive 11

INCENTIVE

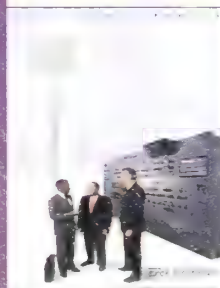
Incentive is a large Swedish industrial group with a turnover of SEK 12 billion,

12,000 employees and 200 companies all over the world.

Incentive is mainly active in the business areas:

- Materials Handling • Transportation • Construction & Environment
- Process Industries • Imaging Technology • Power

Incentive also has important shareholdings in ASEA, Electrolux and Esab. The Incentive share is listed at the Stockholm Stock Exchange.

Exide Electronics 8

Exide Electronics power protection solutions are used by many Fortune 1000 companies and government-directed agencies, such as the Federal Aviation Administration. The Company's UPS products protect critical computing operations and are often integrated into major projects similar to the FAA where UPSs are being installed at Air Route Traffic Control Centers nationwide.

Integrated Health Services, Inc. 12

Integrated Health Services, Inc., based in Hunt Valley, Maryland, is a leading provider of alternate site subacute care. IHS, through its proven Medical Specialty Unit (MSU) model, provides a wide range of comprehensive medical and rehabilitative services traditionally given in an acute care hospital but at savings of approximately 50%.

Lyondell Petrochemical Company

13



A major factor in two businesses, petrochemicals and petroleum refining, with \$4.8 billion in revenues, Lyondell is 111 on the *Fortune* 500. Major steps toward strategic goals include a pending refinery venture with CITGO to upgrade Lyondell's refinery into a world-class, heavy crude oil processing facility. Lyondell has provided a 3-year annualized return to shareholder of 19%. Quarterly dividends are \$0.45 per share. (NYSE:LYO)

Nordson Corporation

17



Nordson corporation is a world leader in systems that apply adhesives, sealants and coatings to consumer and industrial products during manufacturing operations. Since 1986, sales and earnings per share have grown at average rates of 17% and 20%, respectively. For 1992, gross margins were 61% and return on shareholders' equity was 24%.

Minnesota Power

14



Minnesota Power operates utility and utility-related companies in six states. The largest provides electric service in northern Minnesota and northwestern Wisconsin. Power generation: 88% low sulfur coal, 12% hydro. 1992 return on equity, 15.3%. Dividends increased annually since 1971. Total shareholder return averaged 19% for last ten years.

Precision Standard Inc.

18



Precision Standard is a diversified company engaged in the maintenance and modification of aircraft for military and commercial customers, the provision of aircraft support services, the design and manufacture of aircraft cargo handling systems, the manufacture of aerial target systems and the development and manufacture of rocket launch vehicles and guidance systems.

Nokia

15

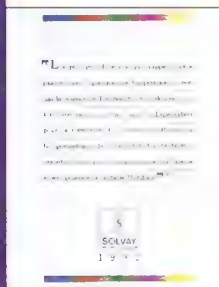


Nokia is a Finland-based international technology group. About half of its FIM 18 billion opera-

tions are manufacturing and developing telecommunications systems and equipment. Nokia is the world's second-largest producer of cellular mobile telephones and a forerunner in digital telecommunications technology. Nokia is also a major European consumer electronics and mobile technology company.

Solvay Group

19



The Solvay Group is a leading chemical and pharmaceutical company with sales of USD 8 billion worldwide.

The strategy followed by the company is to develop specialty products, with high value-added, high margin and high research content in each of its five sectors - Alkalis, Peroxygens, Plastics, Processing and Health.

Norfolk Southern Corporation

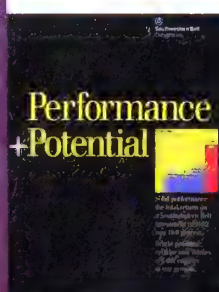
16



Norfolk Southern Corporation, "The Thoroughbred of Transportation," is a Virginia-based holding company that owns all the common stock of and controls a freight railroad, Norfolk Southern Railway Company, and a motor carrier, North American Van Lines, Inc. The corporation's 1992 net income exceeded \$557 million.

Southwestern Bell Corporation

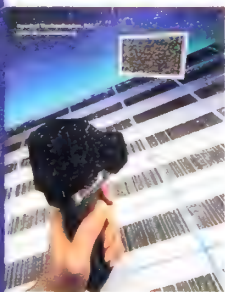
20



Southwestern Bell Corporation (NYSE:SBC) provides telephone, cellular, cable TV and advertising services and products to customers worldwide. SBC also holds a 10 percent stake in Telmex, the Mexican phone company. In 1992, for the second year in a row, SBC's total return of 19.0 percent was the best among the Bell companies and GTE.

Symbol Technologies

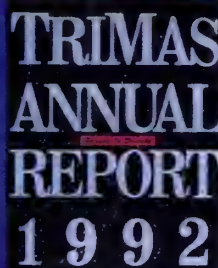
21



Symbol Technologies (NYSE:SBL) is the world leader in automatic bar code data transaction systems with expertise in three core technologies—bar code laser scanning, portable computing and RF data communication. Introduced in 1992, scanner for PDF417 2D symbology and strategic alliances with Computer Associates and IBM. International revenue increased 28% in 1992.

TriMas Corporation

2



A leading diversified manufacturer of proprietary leadership products for commercial, industrial and consumer niche markets, recorded another record year for 1992. Major operating and financial achievements in 1992 include record sales, operating profit and cash flow and, most importantly, record shareholder returns.

Send for our Annual Report to learn why we believe 1993 will be another year of record sales and earnings as we continue "Building on Diversity".

Syntellect Inc.

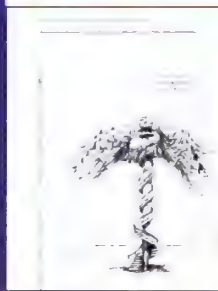
22



Syntellect Inc. (NASDAQ:SYNL) is a leading developer and marketer of Network Voice Processing (NVP) systems worldwide. NVP enables individuals to connect, via telephone, with a growing variety of computer-based services offered by companies around the globe. The Company's products are sold through a network of direct and indirect distribution channels worldwide.

United American Healthcare

2



United American Healthcare Corporation provides innovative managed care services to public and private health care clients. UAHC manages—but does not own—the plans it services. Through individual case management, continuing provider and utilization review and related controls the corporation provides for delivery of all aspects of quality healthcare services.

Televerket

23



The Televerket Group offers public and private networks for telephony, data communications and mobile telephony. In 1992, the Televerket Group's revenues totalled USD 5.9 billion, up 2%. Return on total capital was 8.6%. Telverket invested a total of USD 1.3 billion. Telephone traffic rose 5.1%. Network performance was 99.1%.

Valley National Bancorp

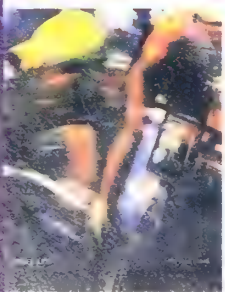
2



Valley Nat'l Bancorp, operating a super community bank in North NJ, surpassed \$3.1 billion in assets during 1992. Return on average assets at 1.38%, return on average equity at 19.86% placed Valley among top US banks with assets over \$1 billion. Net income reached a record \$41.6 million (\$2.18 per share), 38% above 1991.

TELUS Corporation

24



TELUS Corporation is a Canadian telecommunications and information services company managing assets of \$3 billion. Subsidiaries include AGT and AGT Mobility, leaders in the application of digital technology in telecommunications networks and development of digital cellular networks. Joint ventures provide information systems services in Alberta and cable television/telephone services overseas.

Wallace Computer Services

2



Wallace Computer Services (NYSE-WCS) has a consistently strong record of growth and investment performance. The company has had five stock splits, 31 consecutive years of sales increases, 30 of 31 years of profit increases, and 21 consecutive years of dividend increases. Over the last five years the company has grown at four times the rate of its largest competitors.

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THE HIDDEN HITS IN MUTUAL-FUND FEES

It is getting harder to figure out how much a mutual fund costs. The assortment of sales charges and expenses has multiplied, making some investors feel as if the industry has a hand in every pocket, while others mistakenly believe they are getting their mutual funds for free. New rules will go into effect on July 7 that are aimed at preventing fund companies from overcharging, but they won't clear away the confusion.

The mutual-fund industry has enjoyed enormous profits in the past decade as the number of investors has grown exponentially. But instead of lowering expenses by spreading out fixed costs among many more shareholders, fund companies have raised expenses. Instead of honoring investors' demands for lower sales commissions, many companies that distribute their funds through brokers have resorted to pricing structures that hide the sales charge by combining it with the fund expenses. "They've gotten credit for bringing sales charges down," says Don Phillips, a vice-president at Morningstar, a mutual-fund rating service. "But expenses have gone up. It's just a giant reshuffling."

SHORTCUT. Mutual-fund costs are divided between sales charges, or loads, and expenses. Almost all load funds are bought through brokers or financial planners, and the sales charge pays their fee. No-load companies market directly to consumers, without a broker, so the sales charge isn't necessary. Some companies that market their funds directly, such as giant Fidelity, charge an entrance fee of 2% or 3% of your initial investment for



popular or specialized funds.

A fund's expense ratio, which is found in the prospectus, is made up of management, service, and, increasingly, 12b-1 fees, which are used to finance distribution costs. Originally intended to pay for the advertising of no-load funds, 12b-1 fees have come into play far more often today with load funds where they go toward paying an ongoing commission to a broker as well as providing additional expense income to the fund company.

The 12b-1 fee, which was first used in 1988, has allowed load-fund companies to adopt an increasingly wide array of pricing structures. Roughly a third of the funds sold today, investors must now choose among three classes usually termed A, B, C, and D (table).

AROUND THE BEND. As an A share has the traditional one-time, up-front sales charge in which the fund company takes an initial cut that averages 4% to 6% of your money and then invests the rest. There may also be a 12b-1 fee of about 0.25% of assets each year. B shares have a "back-end" load, or a sales charge that is assessed for five to eight years through a 12b-1 charge. Investors who purchase B shares are subject to a contingent deferred sales charge (CDSC) that tapers off from 5% to zero over five to eight years. The main advantage of B shares is that investors don't see all their money go to work right away, though they pay more in the long run.

Currently offered by a handful of brokerage houses and fund companies, including PaineWebber and Thomson Fund Group, "C

, sometimes called C or
ares, charge a 12b-1 fee
a 0.25% service fee for
length of time the fund
d. Investors also may be
sed a 1% penalty if they
em their shares in the
year.

is primer of pricing op-
is only a rough guide,
ver. Fund companies can
their share classes what-
name they want. Thom-
for example, calls its lev-
B shares.

ORIOUS. Although level
looked like the wave of
ature last fall, some fund
anies have balked recent-
moving to C shares.
re was real concern about
onting the investor with
any choices," says Ste-
Gibson, national direc-
f marketing for Putnam

stments, which put
ares on hold. "Three
ent structures gets
e fairly laborious."
e each fund has its
set of fees, in gener-
you know you are
g to hold the fund
ore than six years,
better to pay up
and get the sales
ge over with. How-
most investors
know how long
are going to hold
und, Gibson says.

rtunately, fickle investors
pay a very high price
choosing the wrong class
ares. Investors who hold
d for just a year will pay
a less for a C share, but
iduals who stick with a
al multiclass fund for 5
years will pay about the
in sales charges whether
choose A, B, or C shares.
example, the five-year to-
turn for a \$10,000 invest-
t in a fund that averages
% annual gain will be
\$13 for A shares, \$15,694
B shares, and \$15,657 for
ares, says Chicago's Fi-
ial Research Corp.

hy, then, does the fund
stry create all this confu-
? It's essentially a mar-
g play. Because the 12b-1
ge is added to the ex-
e ratio, back-end and lev-
ad funds are proving to
asier to sell to investors

who believe it's dumb to pay
an up-front load if they don't
have to. Of funds that have
multiple share classes, 65% of
sales in the first quarter of
1993 went into B and C
shares, according to Financial
Research Corp.

Gibson says clients are go-
ing to brokers demanding to
buy a "no-load" fund, thereby
proving they don't understand
that the load goes to pay the
broker's fee. Critics charge
that some brokers are taking
advantage of that confusion,
selling back-end or level-load
funds to clients as "no loads"
and neglecting to mention the
ongoing sales charges and re-
demption penalties. In fact,
brokers are not obligated to
explain all the different pric-
ing options and may choose
for you—opting for the meth-

AIM FOR THE AVERAGE

Fund type	Average expense ratios
INTERNATIONAL	1.79%
SECTOR	1.78
U.S. DIVERSIFIED EQUITY	1.37
HYBRID (asset allocation, balanced)	1.34
TAXABLE BOND	1.03
MUNICIPAL BOND	0.76

DATA: MORNINGSTAR INC.

ture they choose. Starting on
July 7, funds cannot charge
more than a 1% 12b-1 fee or a
0.75% 12b-1 fee plus a 0.25%
service fee in a single year.
They may also be forced to
reduce the sales charge in
years that post lower sales,
since fund companies would
then have less need to com-

those funds loses 21% of its
value with the .75% average
expense cut. "Investors are
going to have to spend more
time looking at these costs,"
he advises. "No service has
infinite value. At some point,
the costs can and will out-
weigh the benefits."

EASE OF USE. For now, Phillips
recommends picking funds
that stick fairly close to the
average expense ratio for
their category. Small funds
typically have larger expense
ratios because they have few-
er investors to absorb fixed
costs. Bond funds tend to
have lower expense ratios be-
cause the funds are easier to
manage, while specialized eq-
uity-sector funds that place
more demands on a manager
assess higher fees (table).

As with any fund choice,
the sales charge and ex-
penses should not be the
primary consideration.
"The emphasis on ex-
penses can get investors
pointing at the wrong
end of the elephant,"
says Charles Dornbush,
Fidelity's chief financial
officer. "No amount of
understanding the ex-
pense ratio really helps
if they didn't understand
the basic investment
risks of the fund or if
they're unhappy with the

investment performance."
Some very successful funds
have high loads, and some
equally dynamic funds have
huge expense ratios. The
Kaufmann Fund averaged re-
turns of 30.5% for the past
five years despite an expense
ratio of more than 3%. And
the United Income Fund aver-
aged more than 17% returns
over the past 10 years, mak-
ing its 8.5% up-front load
seem insignificant to long-
term investors.

So, the first step is de-
ciding whether you want to
choose a no-load yourself or
buy a load fund with the help
of a financial adviser. Narrow
down the list of funds to a
handful of quality choices that
meet your investment objec-
tives. Then, consider the im-
pact of fees and expenses on
total return before you make
your final choice. *Amey Stone*

THE ABCs OF LOAD-FUND INVESTING

Share class	Structure	Sales charge	Special charge for cashing out
A	FRONT-END LOAD	Average 4%–6% initial charge	N/A
B	BACK-END LOAD	0.75% 12b-1 fee for about 6 years 0.25% perpetual 12b-1 fee	Declines from 5% to 0 over 5 to 8 years
C OR D	LEVEL LOAD	1% perpetual 12b-1 fee	1% in first 12 months

N/A=Not applicable

DATA: BUSINESS WEEK

od of payment they prefer.

Figuring out how much you
are paying for a mutual fund
has gotten so complicated that
the National Association of
Securities Dealers, with the
approval of the Securities &
Exchange Commission, will
soon begin enforcing new reg-
ulations that are meant to en-
sure that most investors will
end up paying no more than
the maximum 8.5% load re-
gardless of the pricing struc-

pensate brokers. Also as of
July 7, only those funds that
charge less than 0.25% a year
in 12b-1 fees will be able to
call themselves no-load.

Expenses can make a real
difference to a fund's overall
performance. In the roaring
bull market of the 1980s,
when the S&P 500 returned
an average 17.5% a year for
the decade, expenses took ap-
proximately a 7% nick out of
fund returns. But if the mar-
ket gains 10% in the 1990s—
slightly below its historical av-
erage—15% of profits will be
eaten away by expenses. If
the market grows only 6% a
year in the 1990s, as some
bearish analysts predict, ex-
penses would gouge a punish-
ing 25% out of returns.

"This scenario for equities
is already the reality for mon-
ey-market-fund holders," says
Phillips. A 3.5% return on

**BROKERS DON'T
HAVE TO LAY OUT
THE OPTIONS—AND
MAY PICK THE ONE
THAT SUITS THEM**

Music

THE GOLD STANDARD OF CDs

Ever since compact disks were introduced 10 years ago, music purists have complained that the sound isn't all that good. Too crisp, harsh, and cold are the usual criticisms. Plus, many early transfers of classic albums onto CDs were disasters. Few engineers knew how to handle the new medium, and many CDs were made from poor-quality copies of the original master tapes. Sony and Philips, developers of the CD, scoffed, and CD opponents earned a reputation as wild-eyed audiophile fanatics.

They're not so wild-eyed after all. Sony Music is now rolling out a series of remastered classic CDs that, it proclaims, exceed the "limitations" of standard CDs to

"reproduce music with unprecedented clarity and accuracy." These new CDs, called the Legacy MasterSound series, are plated with 24-karat gold—for cosmetic reasons only. They come in book-like presentation boxes and cost \$30 each, compared with \$14 to \$16 for a standard CD.

REALLY BLUE. For the extra \$15, you get Super Bit Mapping, a new Sony technology that squeezes all 20 bits of sound on a remastered analog tape into the 16-bit format required by CD players. Those extra four bits are usually lopped off by engineers as insignificant, but they add warmth and resonance to the sound that is lacking in regular CDs.

Sony has released 12 titles so far, including *Pearl* by Janis Joplin, Bob Dylan's *Blonde on Blonde*, the original Broad-



NEW SONY CD'S
MORE SOUND
BITS, ORIGINAL
MASTER TAPES

way cast album of *West Side Story*, and Miles Davis' *Kind of Blue*. It plans to release two to three more each month. To ensure that the quality is the best possible, Sony used the original master tapes and often the original engineers and producers. The result: Janis sounds

as if she's in the room with you and Bob Dylan's voice is far less raspy.

The most noticeable improvement is in Miles Davis' *Kind of Blue*. Columbia Records, which owned by Sony, botched the album's first CD of 1959 jazz classic, mixing the sound at the wrong speed and pitch. On the reissue, Sony got it right. Davis' trumpet now sounds blue, and the ensemble playing is clear you can hear the sax keys move.

This all may be annoying if you've shelved out a lot of money on new CDs of your favorite old albums. But if you haven't, and you don't want to pay \$30, wait a year or two. Sony says it will use the technology to reissue standard-priced CDs of the titles once current stock is out. You just won't get gold plating. *Catherine A.*

Remember the stodgy conglomerates? Once highly visible, the corporate giants faded from the scene in the 1980s, when Wall Street was mesmerized by the breakups and acquisitions that junk bonds so ingeniously financed. So the shares of these multi-industry companies languished. But in recent months, the conglomerates have resurged.

The Donaldson, Lufkin & Jenrette conglomerates index outscored the stock market this year, and its strength may continue. "We believe the group will outperform the market during the next 6 to 12 months by 5% to 10%," says Donaldson analyst David Moore.

VALUE GAP. He says the substantial cost-cutting and restructuring that began in the late 1980s should help conglomerate profit margins at least through next year. Also, with their diverse businesses geared toward in-

CONGLOMERATES: THEY'RE BA-A-CK

dustrial manufacturing, conglomerate stocks have had a history of performing strongly in the first two years of a recovery. And, says Jack Solomon, chief market analyst at Bear Stearns, "since they are highly leveraged, the conglomerates have been major beneficiaries of the drop in interest rates."

Along with the improving

scenario for conglomerates is the group's low valuation by the stock market. Despite recent advances, most shares sell well below the intrinsic value of the assets. Until the market acts on this disparity, conglomerates will tend to do more restructuring, selling assets. That would be a big plus for the stocks.

So some money pros have been loading up on conglomerate shares. Tele-dyne, whose products include aircraft engines and machine tools, "continues to be our strongest buy-rated stock," says Moore. He estimates company profits of \$2.05 a share this year and \$2.70 in 1994, vs. last year's 83¢, which included unusual

items and reserves for defense contracts. Also on Moore's buy list is Coltec Industries, whose products include landing gear, automotive products, and compressors.

COOKING. Solomon likes Hillenbrand Industries, which recently bought microwave pop tube maker and aerospace company Raytheon. "Lufkin has one of the best earnings progressions over the past years," he says. He expects that to continue, with a price to \$4.85 a share next year from an estimated \$4.40 in 1993 and \$4.22 in 1992.

Hillenbrand Industries is another Donaldson pick. Apart from supplying metal and wood caskets to some 16,500 funeral homes, Hillenbrand owns luggage maker American Tourister as well as Hill-Rom, a large producer of electric beds and other hospital equipment. It is expected to earn \$1.95 this year and \$2.35 in 1994, vs. \$1.60 in 1992. *Gene Ma*

CONGLOMERATE COMEBACKS

Company	Stock price May 10, 1993	Price/earnings ratio
COLTEC INDUSTRIES	15	12
HILLENBRAND INDUSTRIES	44	28
LITTON INDUSTRIES	60	14
TELEDYNE	18	23

DATA: BRIDGE INFORMATION SYSTEMS INC



When you choose a Managed Care and Employee Benefits program it affects more than your company's bottom line. It affects the lives of your employees and their families. Which is why The Travelers is committed to providing both savings and quality for the people you trust and the people they love.

We offer your employees the caring and expertise of over 100,000 health professionals in more than 130 major metropolitan areas, as well as a nationally recognized wellness and counseling program that is preventing illness through innovation.

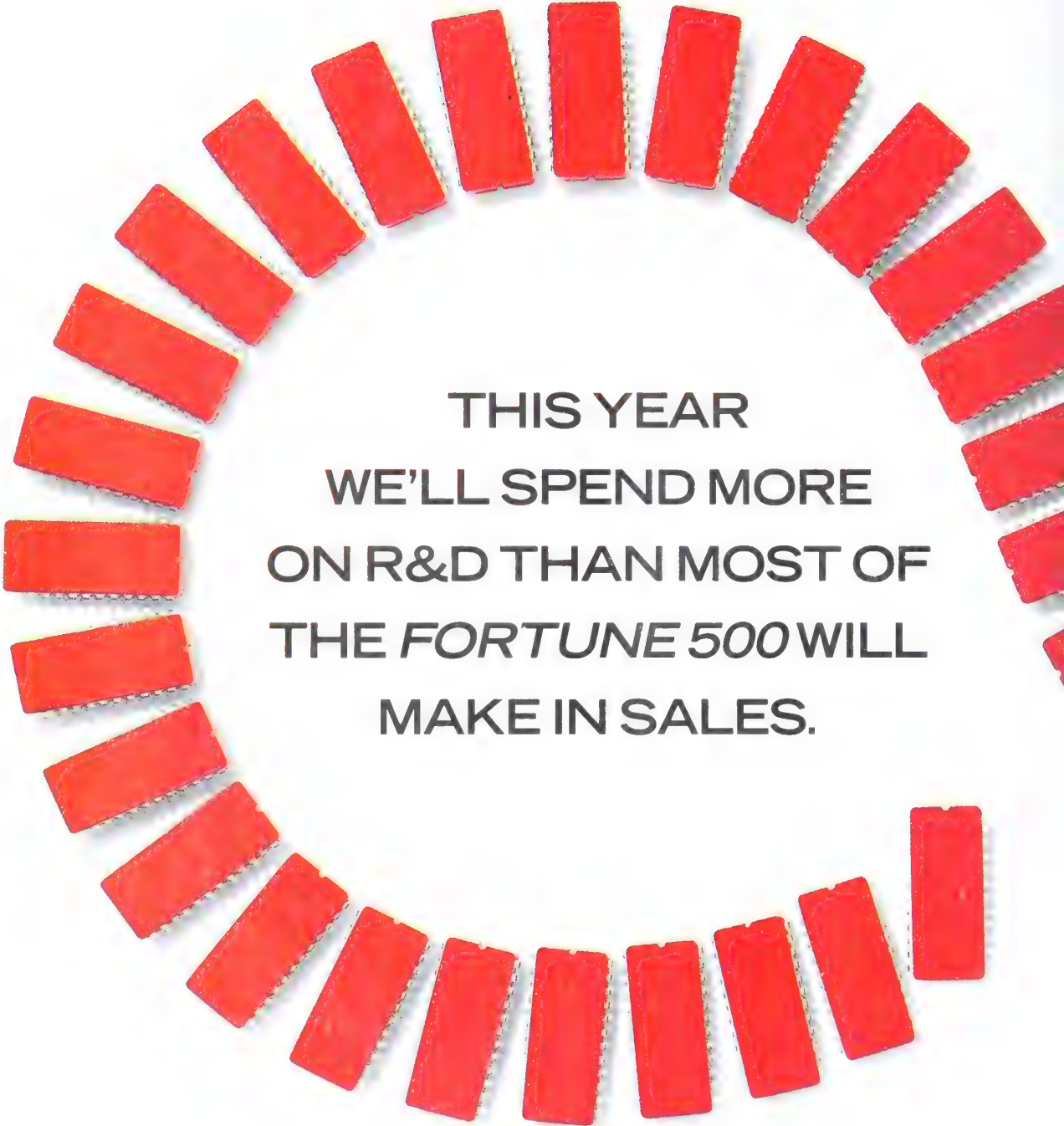
And our Managed Care System can be customized to provide your company with the flexibility to make the most of your benefit dollars. In fact, we've actually reduced the rise in health care costs for our customers by over 30%.

With one of America's largest managed care networks, we understand the importance of taking care of one another.

But most importantly, we offer a program that recognizes one truth for employer and employee alike — the greatest wealth of all has little to do with money.

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TheTravelers
AMERICA'S UMBRELLASM



THIS YEAR
WE'LL SPEND MORE
ON R&D THAN MOST OF
THE *FORTUNE* 500 WILL
MAKE IN SALES.



We spend
nearly \$3 billion annually on R&D
(over 10% of sales) to bring the most
profound technologies down to human terms. And
put some of them in human hands. ∞ The ultra-
light cellular phone, a direct result of our microelectronics
search, is an example. It was Fujitsu gallium arsenide
circuitry that made smaller and lighter cellular phones
possible—like our new PCX™ flip phone that weighs
only 7.4 ounces and fits comfortably into a shirt
pocket. ∞ Another Fujitsu first—the High Electron
Mobility Transistor—is making improved broadcast
satellite TV systems possible. And Fujitsu is a
leader in re-writable magneto-optical disk drives—an innovation
that offers nearly unlimited storage capacity. ∞ In over
100 countries, we're translating the complexities of tech-
nology into new ways to make life less complex.
It's helped make us the \$25 billion
company we are today. Now it's helping
us make our name in
America.



High Electron Mobility
a Fujitsu invention
improved broadcast
satellite TV possible.

∞
FUJITSU

COMPUTERS, COMMUNICATIONS, MICROELECTRONICS

Electronics

ONE-STOP MULTIMEDIA MAKEOVERS

Suddenly, a personal computer with color capability and a large storehouse of memory isn't good enough. Now, if you want the latest encyclopedia program for your kids or an electronic tour of the Louvre, you need stereo sound, animation, and video, too. To get those features, you have two options: Junk your old system and replace it with a \$2,000-plus multimedia PC, or better yet, if your equipment has at least a 386SX chip, buy a multimedia upgrade kit.

These kits were made possible by a standard called MPC, for multimedia PC. Established by 12 computer companies that make up the Multimedia PC Marketing Council, MPC spells out the minimum features and peripherals a PC should have to be considered multimedia. With those guidelines, some enterprising companies have assembled kits that include everything you need to add to a basic PC: a sound board, CD-ROM drive, speakers, all the cables, and free software to get you started. At about \$500 to \$1,000, the kits cost hundreds of dol-



lars less than it would be to buy the components separately.

First, make sure you have enough computer power. MPC recommends at least a 386SX microprocessor, 2 megabytes of system memory, and a 30-megabyte hard drive. But you're really better off with at least a 486SX, 8-megabyte system memory, and a 100-megabyte hard drive. In fact, the Multimedia Marketing Council plans to unveil a new standard this month called MPC 2, which will come close to that recommendation.

STABILITY FIRST. Then, when you choose a kit, make sure it is labeled with the MPC logo. And it's probably wise to stick with the leading brands, Creative Labs and Media Vision. The off brands compete mainly by price, and there's

no certainty they'll still be around for customer service in a few years.

You should also buy the best system you can afford. Technology is advancing rapidly, and a lot of the cheaper systems will be woefully obsolete in a few years. Spend the extra \$100 for a kit with 16-bit sound. In fact, the best bet is the Pro 16 from Media Vision for about \$1,000. It's the only major brand on the market that includes a double-speed CD-ROM drive—one of the requirements of the MPC 2 standard.

The hardware in the various kits is similar. They differentiate themselves by the CD-software programs included. The Pro 16, for example, offers an electronic encyclopedia and *karaoke* setup among its eight programs. The Sound Blaster Edutainment CD 16 from Creative Labs, also with eight programs, includes an encyclopedia and World War II flight simulator. Try out the software in the store and decide which programs you like best.

Finally, consider how adept you are at fiddling with the guts of your computer. If you're easily frustrated while sorting through tangled power cords and connector cables—and trying to shove them and your drive into a tight space—buy a kit with an external CD-ROM drive. It plugs easily into a connector on the back of the PC.

Getting the stuff to work

can be harder. Every peripheral on your computer has to communicate with the processor over its own line and send data to memory over a "DMA" line. If a component in your kit is set for the same channel as something already in your PC, you'll have to figure out where the conflict is, change the software setting, and perhaps the switch inside your computer. **BUSY SIGNALS.** I tried kits from both Media Vision and Creative Labs and found that when it comes to software problems, Media Vision is better. The startup software helps you find IRQ and conflicts, and its instruction manual is easier to follow (Creative hasn't even written new instructions for the kit but simply includes the original manuals for the different components.) I also got busy signals from Creative tech-support number. Still, the Creative kit ran the gamut, so I didn't need help.

In the end, you may want to have an expert install the system for you. Creative has sponsored a free installation program with the Compaq stores and plans to include it of its retailers nationwide in a few months. Even without problems, you may have to reconfigure your computer's memory to run large DOS-based programs. Unless you're comfortable altering your "config.sys" file, get help. *Richard B.*

KITS FOR UPGRADING YOUR PC

Each of the following contains a 16-bit sound card, CD-ROM drive, and (except for the Pro 16) stereo speakers

FROM CREATIVE LABS

SOUND BLASTER DISCOVERY CD 16

Market price: \$500.

Features: 3 CD software programs, including an encyclopedia and two children's games

SOUND BLASTER EDUTAINMENT CD 16

Market price: \$600.

Features: 8 CD programs, including an encyclopedia, a WW II flight simulator, and other games

FROM MEDIA VISION

FUSION CD 16

Market price: \$600.

Features: 5 CD programs, including an encyclopedia, a chess game, and a space-flight simulator

PRO 16

Market price: \$1,000.

Features: A double-speed CD-ROM drive; 8 CD programs, including Mayo Clinic Family Health Book, a *karaoke* setup, and several games

DATA-BUSINESS WEEK

Worth Noting

■ **SMART LOANS.** The Smart Loan Marketing Assn. is cutting interest rates on consolidated through Smart Loan Account. Borrowers who make the first payments on time get a percentage point break in the life of the loan. Call 524-9100.

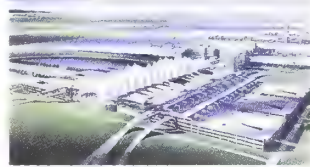
■ **TAX TAB.** If you owe the money, you can now do your own payment schedule by filling out Form 9463. The tab must be less than \$10,000—which applies to taxpayers with balances due. Call 800 TAX-FOR-

*When you work in a place that's a mile high,
your ideas are bound to be loftier.*

When your standard of reference is the Rocky Mountains, thinking big is something that comes naturally.

One sterling example of this thinking is the new Denver International Airport. Scheduled for completion 1993, it covers more land area than both O'Hare and Dallas/Fort Worth airports combined.

But more significantly, it's the first airport that will allow up to three different teams of aircraft to land at the same time. This, together with the latest navigational aids and low visibility lighting will make for an airport that's virtually weatherproof, resulting in fewer delays.



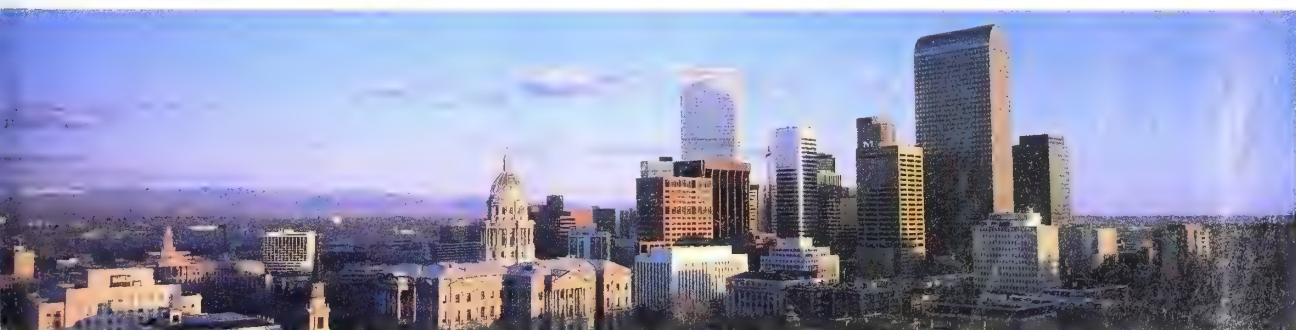
Perhaps it's only fitting that the minds behind this project come from a place where the workforce ranks as one of the highest educated in the nation. In fact, the number of college graduates here is 6.2% above the national average. And, according to the Federal Reserve, our state economy is one of the most diverse.

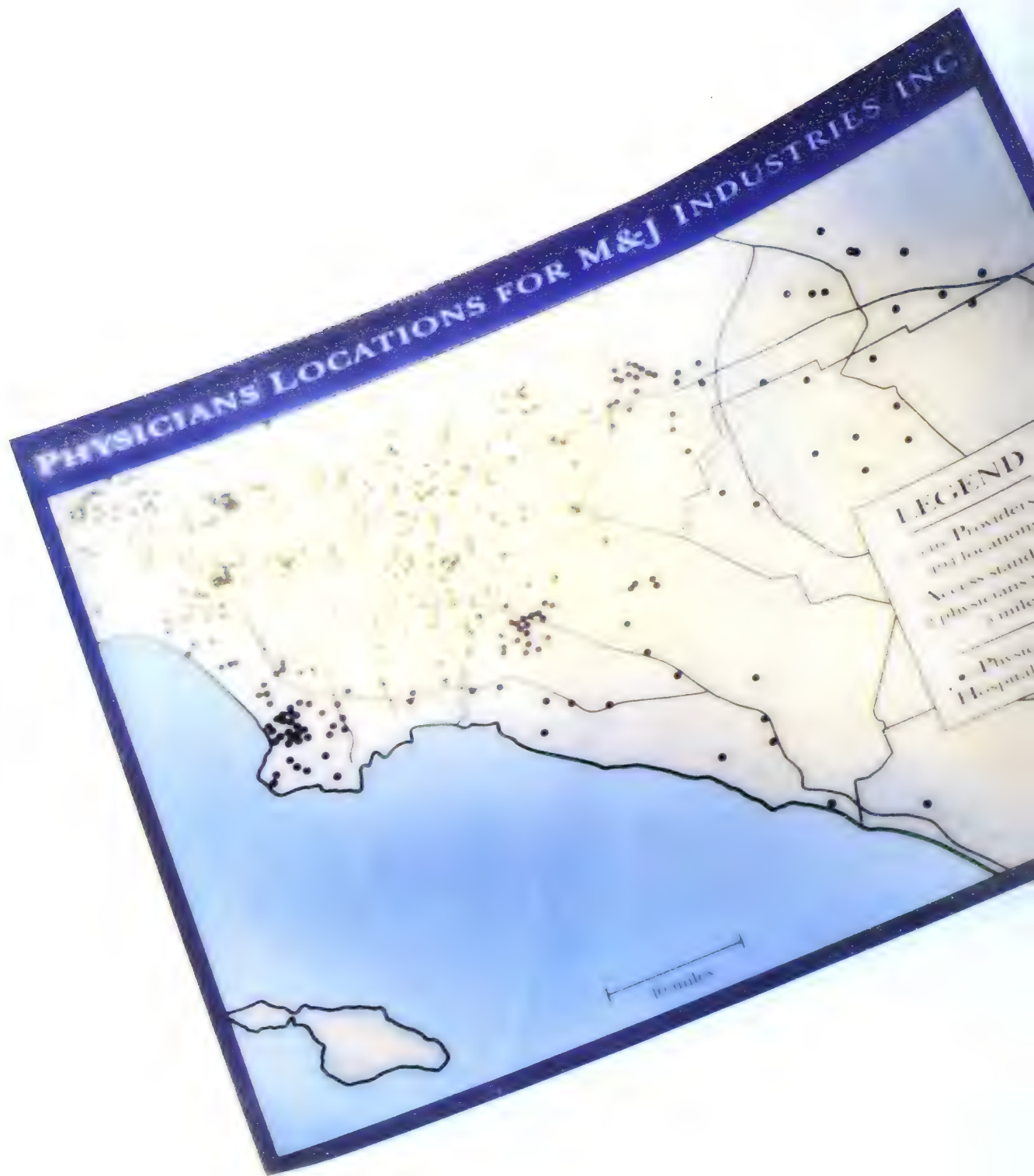
In addition, Denver is where cable television was invented. It is still the country's gold-mining capital. And it's the only place in the U.S. where you can link directly by satellite to five continents, using only one satellite "bounce."

All of which make Denver an unusually forward-thinking place to do business. As evidenced by the fact that more money is currently being spent to build infrastructure in Denver than in any other city. Or the fact that prime downtown office space goes for a competitively low \$13 a square foot. And the median cost of a home is \$95,000.

All in a location that has more sunny days than Miami or Honolulu.

So, if you find yourself having ideas that seem bigger than the city you're in, we suggest you call Dolores Johnson at the Metro Denver Network, 303-620-8029. We think you'll enjoy the conversation. After all, she is quite accustomed to hearing from people like you. *Denver* Take A Closer Look.





Tell your employees we've got them surrounded.

We have one of the largest PPO and HMO networks in the state. But you need to know there are doctors and hospitals in each employee's neighborhood. That's why we offer companies with 51 or more people a free accessibility analysis. You determine the accessibility needs of your group and we'll show you, with maps and evaluation tables, how we meet those needs. To find out more about this free service, call your broker or a Blue Cross Group Sales office. **We make the system work for you.™**

CALIFORNIA CARE
HEALTH PLANS
BLUE CROSS CALIFORNIA

For the cost of an average meal out, you can feed 10 hungry people.



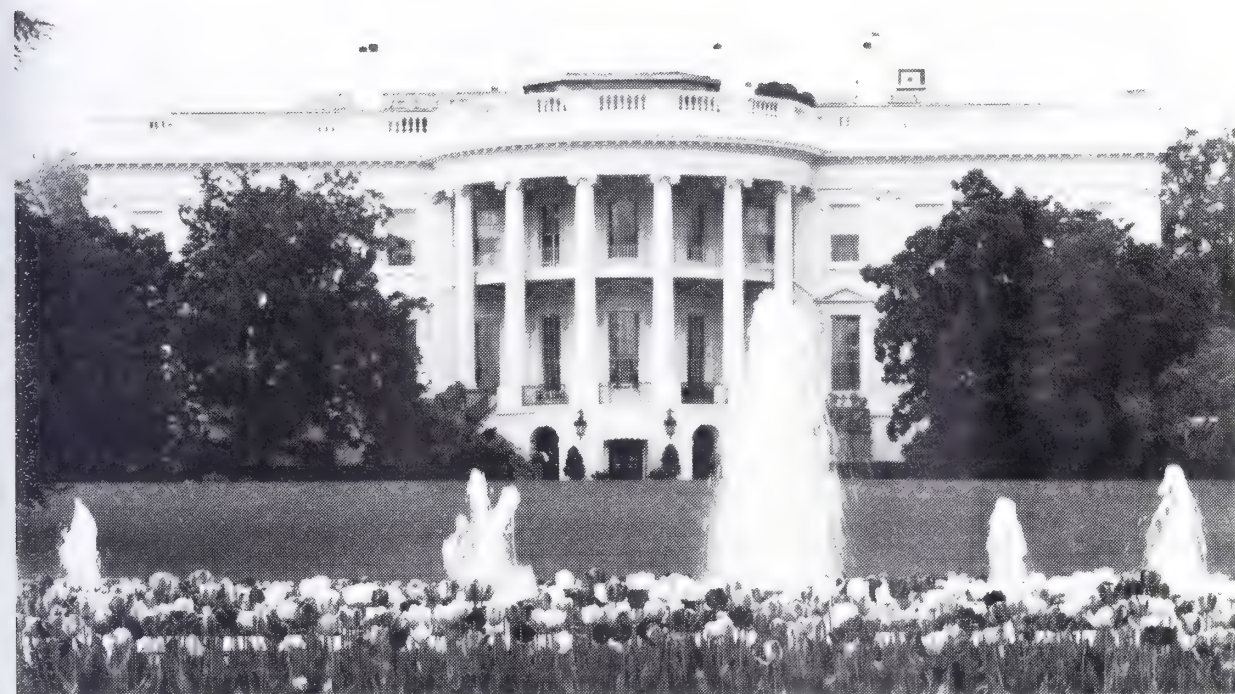
Last year, United Way agencies helped serve over 417,000 nourishing meals to our area's hungry for about \$2.60 a plate. This year the need is even greater and your contributions more crucial. Please help.



The United Way
Thousands need us. We need you.

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They are people of exceptional abilities, strong motivation and a desire to serve their country.

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politics, science and the arts. And they all agree on one thing: Their year as a Fellow changed their lives.

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The massive privatization of eastern Germany's industries presents American companies and investors with a once-in-a-lifetime opportunity.

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You'll be perfectly positioned to participate in the markets of the European Community and eastern Europe.

You'll be buying into a stable political and business environment with a strong currency and skilled labor.

And there's a government agency, the Treuhandanstalt, to see that you have the hard facts you need and to facilitate your acquisition.

The Treuhandanstalt has just issued seven catalogs with complete information about 340 available businesses in the following industries:

Metalworking and equipment construction

Mechanical engineering

Automobile components and accessories

Wood, paper and furniture

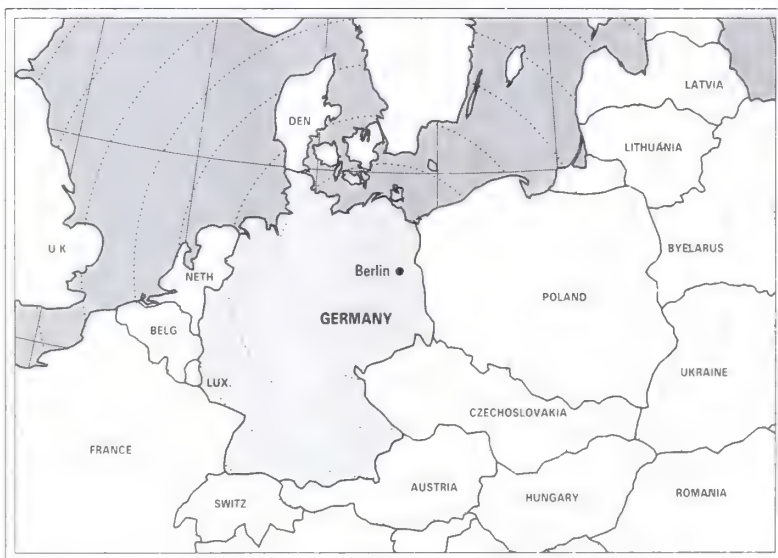
Building construction and subcontracting trades, interior finishing

Textiles, clothing and leather

Various industries

The Treuhandanstalt is waiting to put a great opportunity in the palm of your hand.

But the opportunity won't last long.

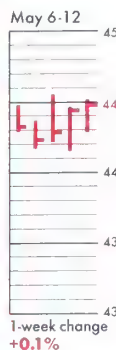
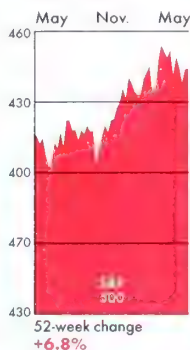


Investment Figures of the Week

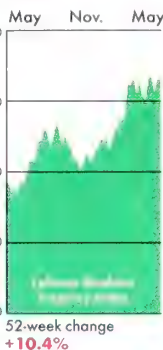
STOCKS

Despite an uptick in interest rates and rising oil prices, the Dow industrials hit the most bounce, closing at 12 at an all-time high. Oil prices, as investors reacted to a more-than-expected increase in the oil producer price index. Oil stocks recovered at on talk that the expected war may be less intense than ally feared. Gold issues again. And as the table shows, their performance over the week has been spectacular.

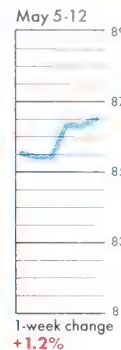
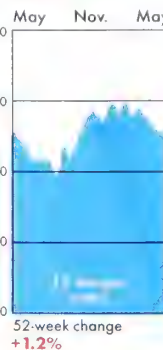
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS

	Latest	% change Week	% change 52-week
DOW INDUSTRIALS	3482.3	1.0	2.7
COMPANIES (S&P MidCap Index)	164.0	-0.1	13.9
COMPANIES (Russell 2000)	228.9	0.5	15.0
COMPANIES (Russell 3000)	254.8	0.0	8.6

IN STOCKS

	Latest	% change Week	% change 52-week
(FINANCIAL TIMES 100)	2860.8	2.3	5.2
(NIKKEI INDEX)	20,615.2	-1.5	9.8
(TSE COMPOSITE)	3796.5	0.2	11.5

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	2.95%	2.95%	3.67%
30-YEAR TREASURY BOND YIELD	6.86%	6.78%	7.86%
S&P 500 DIVIDEND YIELD	2.81%	2.81%	2.96%
S&P 500 PRICE/EARNINGS RATIO	22.4	22.6	25.5

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	439.9	438.9	Positive
Stocks above 26-week moving average	62.3%	62.2%	Neutral
Speculative sentiment: Put/call ratio	0.39	0.38	Neutral
Insider sentiment: Vickers sell/buy ratio	2.87	2.93	Negative

INDUSTRY GROUPS

WEEK LEADERS

	% change 4-week	% change 52-week
MINING	21.9	39.8
MANUFACTURING	10.1	-18.6
CAPITAL MANAGEMENT	9.6	-31.5
TELECOM	8.9	-31.0
PHARMACEUTICALS	8.8	-17.6

WEEK LAGGARDS

	% change 4-week	% change 52-week
REGIONAL BANKS	-9.8	16.8
SAVINGS AND LOANS	-9.1	2.3
RETAIL MERCHANDISE CHAINS	-8.7	5.2
INSURANCE	-8.6	40.0
EXPLORATION AND PRODUCTION	-7.3	16.9

Strongest stock in group

	% change 4-week	% change 52-week	Price
ECHO BAY MINES	50.0	46.9	9
SCHERING-PLOUGH	13.2	23.1	66 1/2
NATIONAL MEDICAL ENTERPRISES	12.9	-43.5	8 3/4
UST	14.4	4.7	30 7/8
U.S. SURGICAL	26.4	-64.1	37 3/4

Weakest stock in group

	% change 4-week	% change 52-week	Price
FLEET FINANCIAL GROUP	-14.2	5.9	31 5/8
GOLDEN WEST FINANCIAL	-10.6	5.0	42 1/4
WAL-MART STORES	-13.3	0.0	26
JEFFERSON PILOT	-13.8	30.8	49 3/8
MAXUS ENERGY	-16.7	32.7	8 1/8

MUTUAL FUNDS

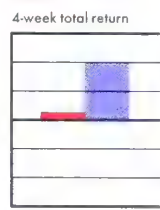
RS

	%
4-week total return	
DOM HILL INVESTORS	33.8
WATSON STRATEGIC INVESTMENTS	18.6
BECK GOLD RESOURCES	17.8
52-week total return	
LIFE-STATE STREET GLOBAL ENERGY	58.5
DOM HILL INVESTORS	47.6
GROWTH	42.6

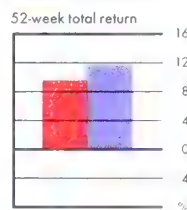
LAGGARDS

	%
4-week total return	
STEADMAN AMERICAN INDUSTRY	-9.0
FIDELITY SELECT REGIONAL BANKS	-7.6
SIFE TRUST	-6.6
52-week total return	
FINANCIAL STRATEGIC ENVIRONMENTAL	-26.3
FIDELITY SELECT MEDICAL DELIVERY	-17.7
G.T. LATIN AMERICA GROWTH A	-17.6

S&P 500



Average fund



RELATIVE PORTFOLIOS

Amounts
at the present
of \$10,000
and one year ago
portfolio

ages indicate
total returns

Treasury bonds
\$12,353
+0.15%

Foreign stocks
\$12,179
-1.38%

U.S. stocks
\$10,986
+0.07%

Gold
\$10,545
-0.22%

Money market fund
\$10,246
+0.05%

on this page are as of market close Wednesday, May 12, 1993, unless otherwise indicated. Groups include S&P 500 companies only; performance and share prices are as of market close.

May 11. Mutual fund returns are as of May 7. Relative portfolios are valued as of May 11. A more detailed explanation of this page is available on request.

U.S. COLLEGES COULD STAND SOME DOWNSIZING

America's universities and colleges are a national resource. Ideas nurtured at universities created the computer, electronics, biotechnology, and other high-tech industries. Universities are also big business, making up nearly 3% of gross domestic product. There's the rub. Like many big, complex American corporations, universities and colleges have become bureaucracy-bound, expensive behemoths. From 1975 to 1985, according to one Education Dept. study, nonteaching professional staff, such as lawyers and accountants, grew by 61%, while the faculty increased by only 6%. In public colleges and universities during the 1980s, real administrative expenditures for each full-time student went up 19%, nearly four times the money that went for instruction. Private schools did better: Administrative expenses rose 34% and the cost of teaching rose 26%.

Just as auto makers did, colleges alienated their middle-class customers by raising prices well above the overall inflation rate in the 1980s. Increasingly, college classrooms are filled with rich kids and foreign students who pay full tuition, and students on scholarships. Middle- and working-class students are being squeezed out of the nation's best, most expensive schools to compete for slots at public colleges—where prices are also rising year after year.

The growing army of bureaucrats that feeds off academe has to be defeated. The higher education dollar must be redistributed so that more of it flows back to classrooms and laboratories. We believe that governing boards should learn from Corporate America and begin to weed out marginal departments and build areas of competitive advantage within their schools. Increasing productivity is the only way to control the higher-education inflation infecting America. In the global economy, competitive advantage belongs to nations that excel at creating new knowledge and transforming new technologies into products. America's colleges are still the envy of the world. We must act now to save them.

CLINTON'S BAD BET ON SHORT RATES

As interest rates in recent months plummeted to levels unseen since the 1960s, millions of Americans raced to refinance. Scarred by memories of double-digit inflation during the 1970s, many homeowners and corporate treasurers have turned their backs on adjustable mortgages tied to short-term interest rates, deciding instead to go for 15- and 30-year fixed-rate mortgages at under 8%. In deciding to lock in long-term money, the average homeowner is showing a lot more good sense than all of Bill Clinton's Treasury team put together.

To try to reduce the budget deficit, the Clinton Treasury has sharply curtailed the number of long-term bonds it sells. By shifting heavily toward short-term financing, the Presi-

dent's budget experts are projecting \$16 billion in savings over the next five years.

For all its superficial allure, the move is fraught with peril. A recent Goldman, Sachs & Co. study calculated that the federal government had funded its debt with short-term bills yearly since 1960, it would have paid \$200 billion in interest than it did by using longer-term financing. The reason, of course, was a pickup in inflation. Clinton's Treasury team is betting that inflation will remain low over the next three decades. We hope they are right.

But they are certainly not prudent. If President Clinton's efforts to reduce the deficit fall prey to renewed political bickering, rates could rise as early as next year, actually increasing the government's borrowing costs. Clinton's constant battles to get his proposals through Congress highlight the fact that Washington remains haunted by political gridlock.

The Clinton Administration would be well advised to stick with its current strategy before changing to a short-term financing strategy. It puts in place a serious deficit-reduction program, which is good. But for now, since the government has to pay for the money, getting it for 30 years at 7% is a bargain.

TAKE MUNI SALES OUT OF THE BACK ROOM

The trend away from competitive bidding for municipal bonds is an outrage. It has already spawned a political scandal in New Jersey that has enveloped Governor James J. Florio's top aide. The U.S. Attorney for New York's Southern District is investigating alleged sweetheart deals between the New Jersey Turnpike Authority and Merrill Lynch & Co., which landed the juicy post of lead underwriter for \$1.6 billion in turnpike bonds. The problem is confined to New Jersey. In 1992, a stunning 81% of the money raised by munis was sold in this secretive way, down from 59% in 1980. And anyone who suspects that there are plenty of other scandals hidden under state capitol rotundas around the country is probably right. Municipal bond sales have become one of the prime forms of political patronage at the state and local level.

There are sometimes reasons to negotiate bond sales. Bonds with complicated revenue streams, interest-rate guarantees, and other exotica demand the negotiated format. Wall Street firms, which makes higher fees from negotiated deals, argue that they elicit more sales effort from underwriters. Underwriters say that pre-screening customers to see if they're interested in the bonds makes for a smoother sale.

Fine. But these circumstances are relatively rare and do not explain the explosion in negotiated bidding for municipal bonds. New York State, for example, has required competitive bids since 1905, excepting only the most complex deals. In all that time, there have been just two exceptions.

After the New Jersey scandal broke, Florio switched to competitive bidding. These states should serve as a model for others. When negotiated deals are unavoidable, there must be full disclosure of how the winner was picked and a review by a state ethics board. That way, the suspicion of backroom bargaining will be history.



"One thing you learn in racing is that they don't wait for you." *Roger Penske*

When he was 14 years old, Roger Penske's father took him to see his first Indianapolis 500. He hasn't missed one since. "The crowd, the excitement—it just got to me," he recalls. "That's when I said to myself, 'Someday I'm going to compete here.'"

Eighteen years later he made it to Indy as the leader of Team Penske—"a group of drivers, engineers, and mechanics who were as committed to the challenge of racing as I was." To date, Team Penske has won eight Indy 500 victories, making it the most successful team ever.

In addition to managing his racing team, Penske runs an international multibillion-dollar automotive business. Whatever his endeavor, he uses the same management techniques. "I try to teach my people

that it's up to them to innovate, to make things happen. You can't just sit around and wait."

In his work, Roger Penske combines a strong focus on results with attention to detail. "The thing I like about Rolex," he explains, "is that they don't compromise either. If you're going to do something, you might as well be the best at it. That's why I've worn a Rolex for over two decades."



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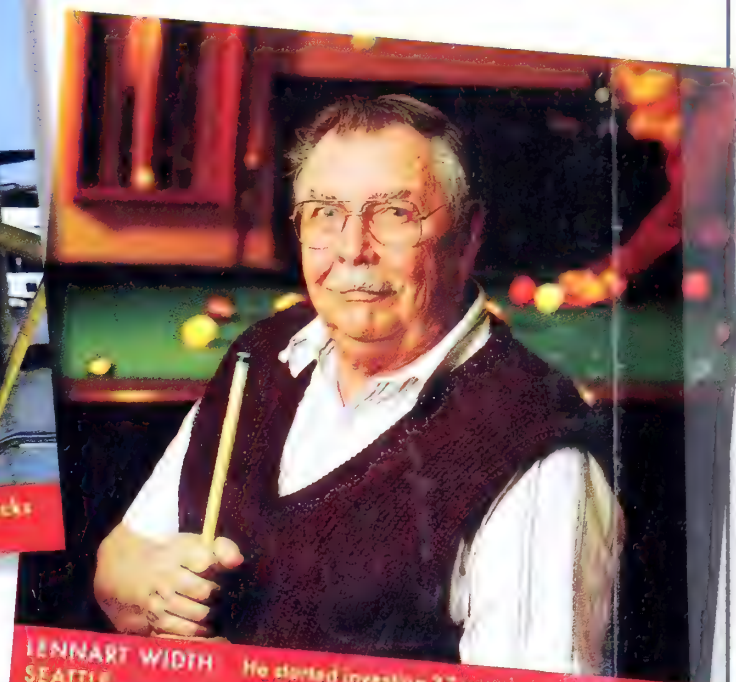
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HOW INDIVIDUAL INVESTORS BEAT STOCK MARKET PROS AT THEIR OWN GAME



AT BLANCO
MIAMI

When mutual funds failed her, she bought stocks on her own—and beat the market handily.



TENNART WIDH
SEATTLE

He started investing 37 years ago and parlayed a \$500,000 savings plan into a \$500,000 portfolio.

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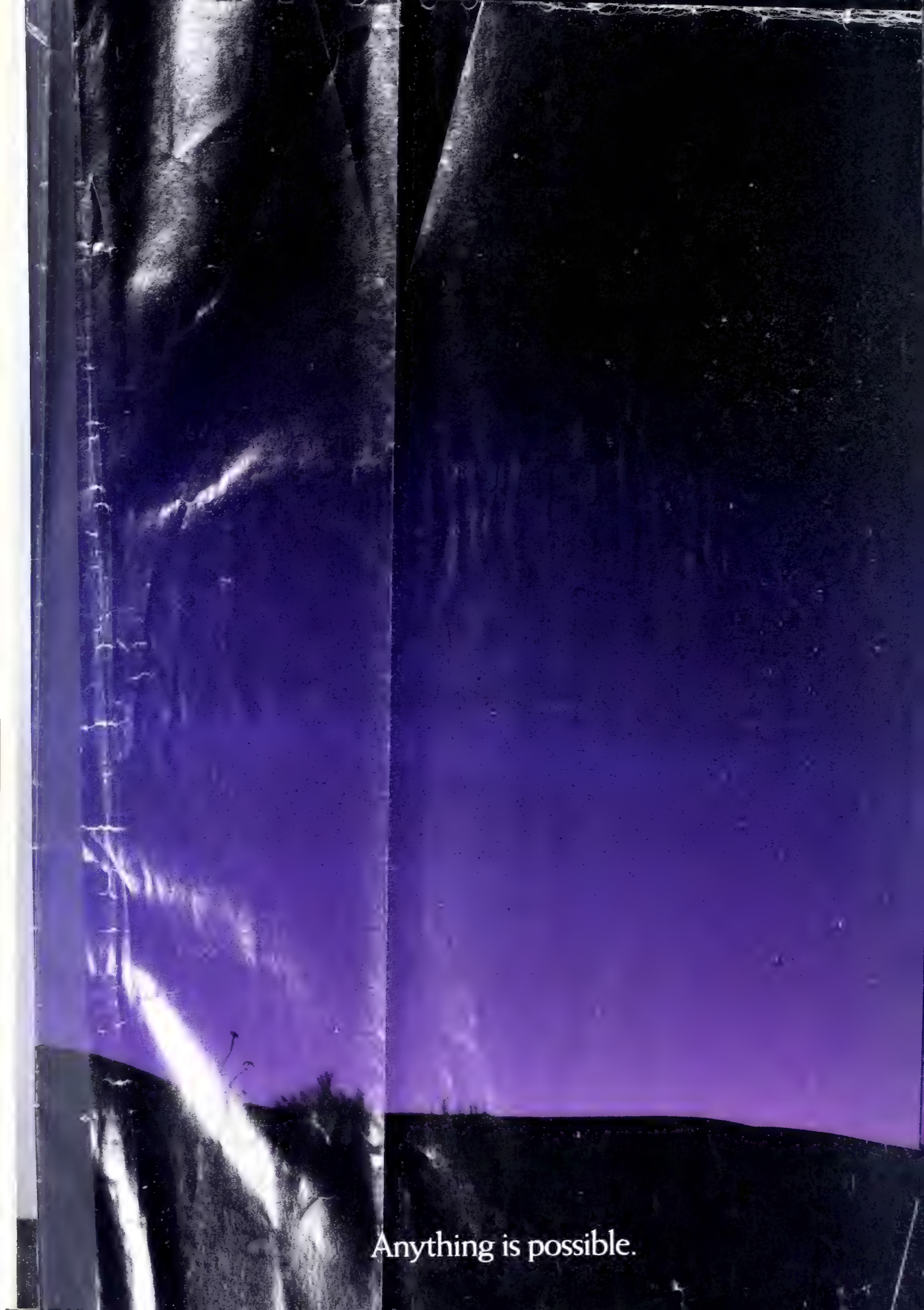
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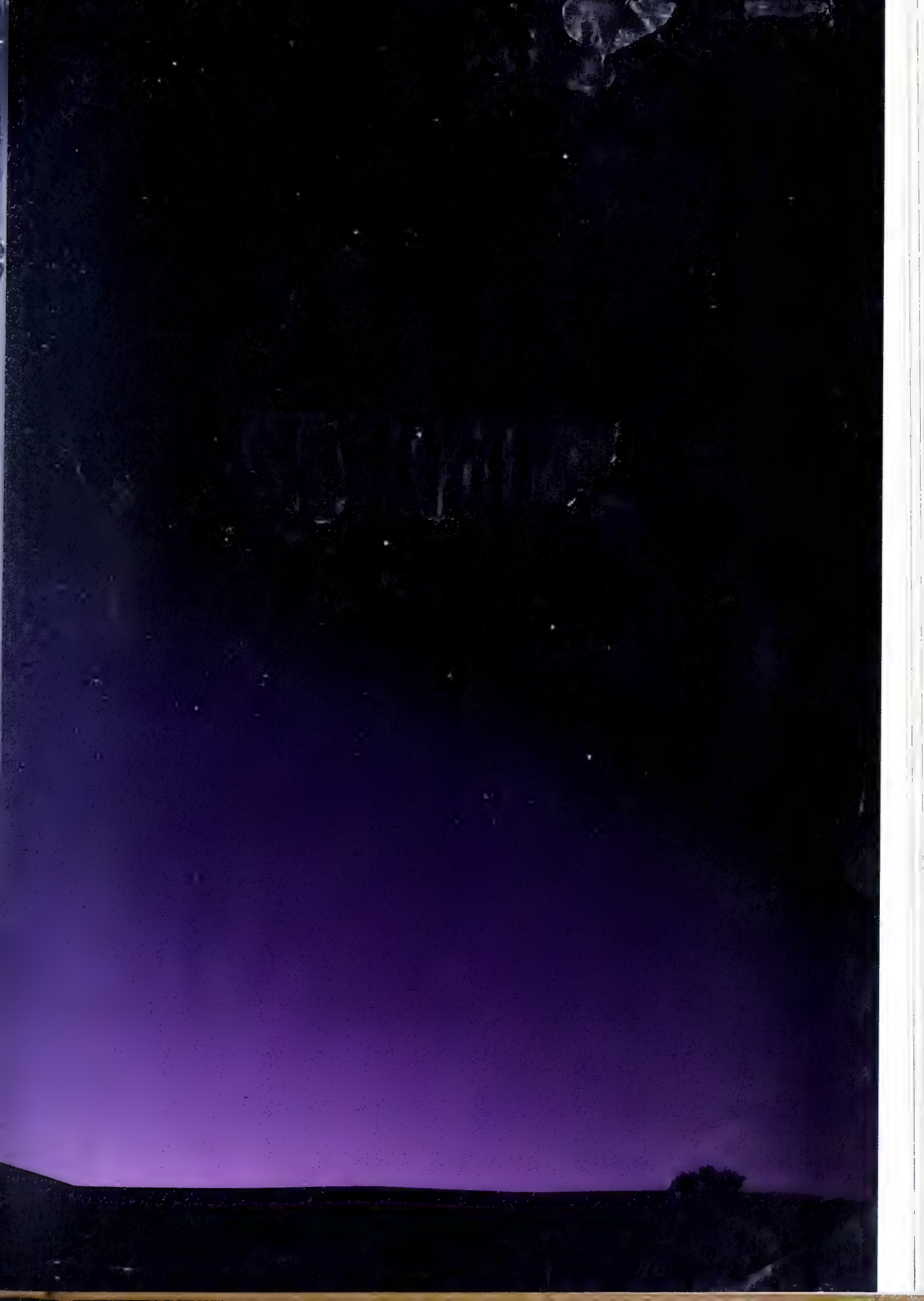


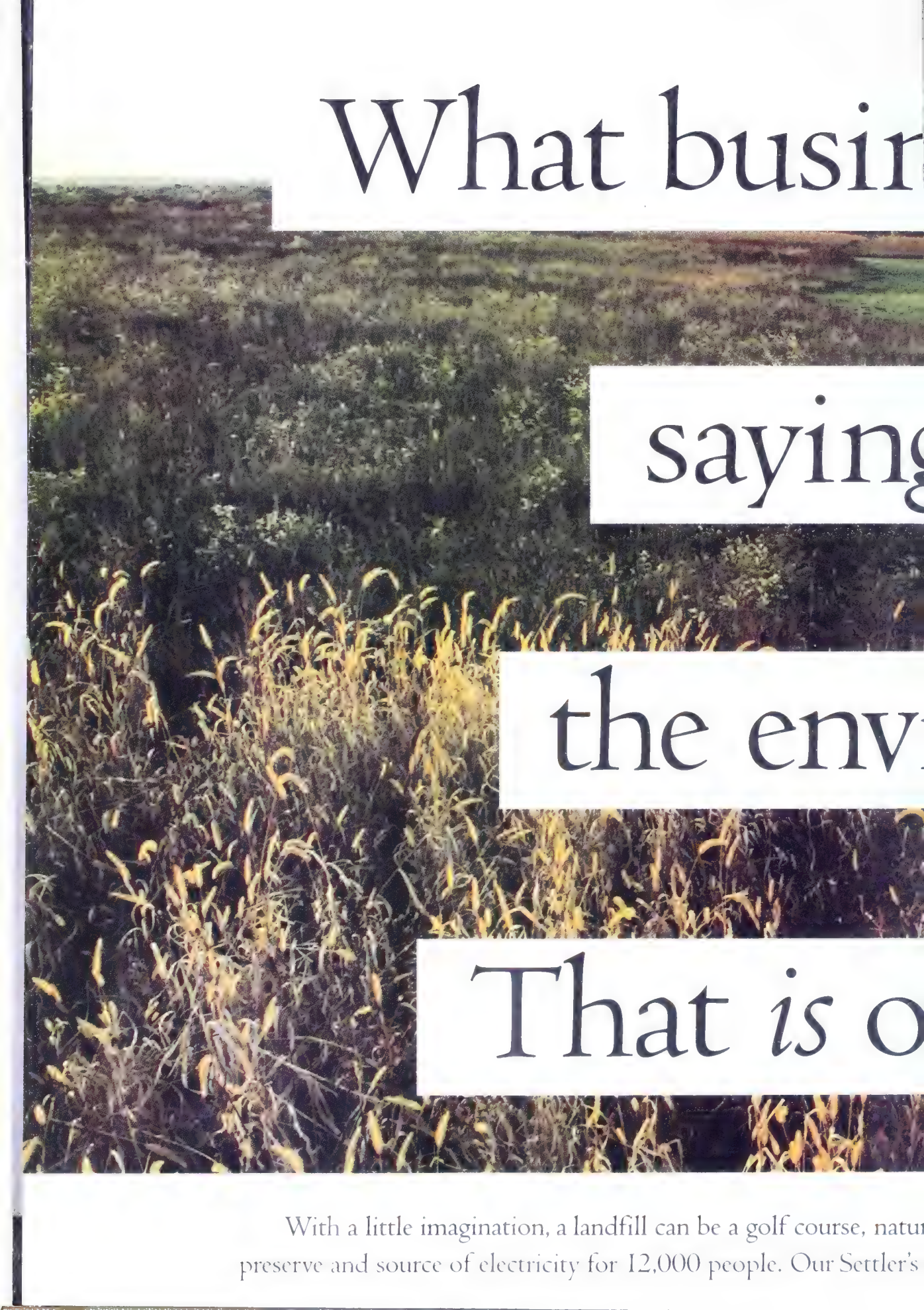
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TRADING A FEW BONDS AT A TIME, PHIL CARLSON HAS AMASSED RETURNS THAT WOULD PUT MANY A STREET PRO TO SHAME

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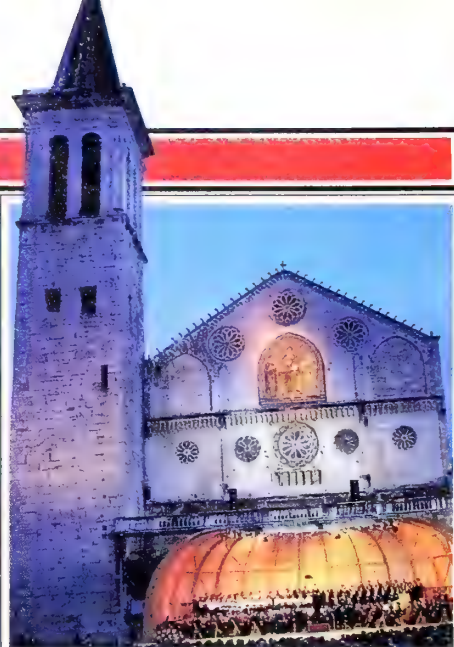
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It deals itself into the commercial computing market



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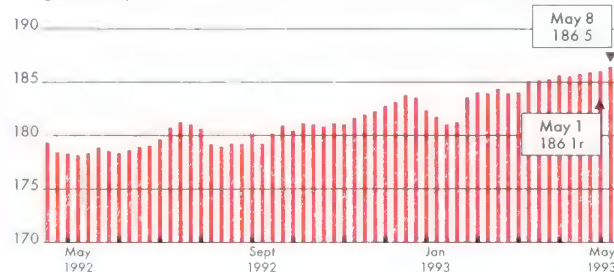
Inflation: The numbers don't add up
Revitalizing the German miracle
Foiling the ATM crooks

BusinessWeek Index

PRODUCTION

Change from last week: 0.2%
Change from last year: 4.7%

1967=100 (four-week moving average)

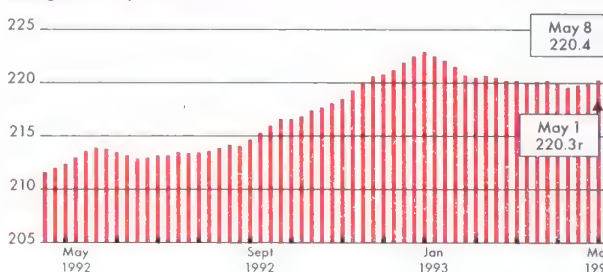


The **production index** advanced during the week ended May 8. On a seasonally adjusted basis, production levels of trucks, electric power, coal, and paperboard all increased. Steel, autos, and paper output and rail-freight traffic declined, while crude-oil refining and lumber production were unchanged from the week before. Before calculation of the four-week moving average, the index edged up to 187.4 from the prior week's reading of 187.

BW production index copyright 1993 by McGraw Hill Inc.

LEADING

Change from last week: 0.1%
Change from last year: 3.5%



The **leading index** increased slightly during the week ended May 8. High stock prices and lower bond yields led the gain, while the growth rate of manufacturing turned positive for the first time in seven weeks. However, growth in materials prices and real estate loans declined, and the number of business failures increased for the week. Before calculation of the four-week moving average, the index rose to 220.2 from 220.2 in the previous week.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (5/15) thous. of net tons	1,818	1,805#	2.8
AUTOS (5/15) units	130,705	134,469r#	-6.0
TRUCKS (5/15) units	105,205	107,493r#	11.8
ELECTRIC POWER (5/15) millions of kilowatt-hours	53,959	52,436#	0.9
CRUDE-OIL REFINING (5/15) thous. of bbl./day	13,607	13,685#	-1.1
COAL (5/8) thous. of net tons	18,319#	18,291	-0.3
PAPERBOARD (5/8) thous. of tons	801.0#	796.9r	2.3
PAPER (5/8) thous. of tons	764.0#	786.0r	2.0
LUMBER (5/8) millions of ft.	468.6#	466.9	-3.7
RAIL FREIGHT (5/8) billions of ton-miles	21.1#	21.5	3.4

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWPA*, SFPA*, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (5/19)	110	112	130
GERMAN MARK (5/19)	1.62	1.61	1.62
BRITISH POUND (5/19)	1.54	1.54	1.82
FRENCH FRANC (5/19)	5.46	5.43	5.43
CANADIAN DOLLAR (5/19)	1.26	1.27	1.20
SWISS FRANC (5/19)	1.47	1.46	1.49
MEXICAN PESO (5/19) ¹	3.097	3.113	3.090

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (5/19) \$/troy oz.	381.900	356.200	13.3
STEEL SCRAP (5/18) #1 heavy, \$/ton	106.50	106.50	15.8
FOODSTUFFS (5/18) index, 1967=100	206.2	205.4	1.4
COPPER (5/15) ¢/lb.	87.0	89.0	-17.2
ALUMINUM (5/15) ¢/lb.	53.0	52.3	-11.7
WHEAT (5/15) #2 hard, \$/bu	3.49	3.32	-10.5
COTTON (5/15) strict low middling 1-1/16 in., ¢/lb	58.39	57.30	3.3

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (5/14) S&P 500	442.15	443.32	
CORPORATE BOND YIELD, Aaa (5/14)	7.41%	7.37%	
INDUSTRIAL MATERIALS PRICES (5/14)	96.3	96.6	
BUSINESS FAILURES (5/7)	457	431	
REAL ESTATE LOANS (5/5) billions	\$394.9	\$395.7r	
MONEY SUPPLY, M2 (5/3) billions	\$3,448.6	\$3,435.2r	
INITIAL CLAIMS, UNEMPLOYMENT (5/1) thous	342	346	

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Street (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
CONSUMER PRICE INDEX (Apr.)	144.0	143.6	
HOUSING STARTS (Apr.) annual rate, thous.	1,213	1,137r	
INDUSTRIAL PRODUCTION (Apr.) total index	110.0	109.9r	
CAPACITY UTILIZATION (Apr.)	81.4%	81.4%r	

Sources: BLS, Commerce Dept., Federal Reserve Board

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (5/3)	\$1,055.1	\$1,040.7r	
BANKS' BUSINESS LOANS (5/5)	277.7	275.7r	
FREE RESERVES (5/12)	777	1,285r	
NONFINANCIAL COMMERCIAL PAPER (5/5)	161.5	156.7r	

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (5/18)	2.97%	2.98%	3.8
PRIME (5/19)	6.00	6.00	6.5
COMMERCIAL PAPER 3-MONTH (5/18)	3.15	3.09	3.8
CERTIFICATES OF DEPOSIT 3-MONTH (5/18)	3.12	3.06	3.7
EURODOLLAR 3-MONTH (5/14)	3.08	3.06	3.7

Sources: Federal Reserve Board, First Boston

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

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HELPFUL HINTS FOR HILLARY?

Down here on the farm, we really appreciate efforts to get us a little reasonable medical care ("Hillary's health-care team needs an injection of reality," Economic Viewpoint, May 10). Back when I was in school, we used to talk about the law of supply and demand. When I was farming, I kept running into this law, usually with adverse results. If there were a lot of soybeans, the price was low; when there was a drought, the price went up: This is the effect of supply.

Let's look at the disease that our medical system suffers from. Prices and availability of medical care are symptoms of the disease, not the disease. The disease is the imbalance of supply and demand. The results, so far, have been a comparative reduction in the general health of the nation and the concentration of wealth in two areas: physicians and insurance companies.

It seems to me that you folks keep talking about how to control the price of medical care from the demand side and aren't really concerned with the supply side. Let's work on supply. The medical community has pointed out that more doctors have not in the past reduced the cost of care. This is true for two reasons: Medical insurance has eliminated the effect of price on demand. Second, in order to create competition in the medical community, the number of doctors must increase at a rate much faster than the general population.

Create a national medical school.

Let students pay for their educations with several years' service in places where doctors are scarce.

Many of the things we go to doctors for could be performed by nurses, nurse practitioners, and midwives. Turn these people loose; let them practice on their own or in cooperation with doctors.

The idea of national service fits well here, but you have to provide more schools and training opportunities.

Declare war on illness. Use the military.

This will not work unless done on a grand scale and will require major

changes in our system of providing medical insurance.

You cannot fix the health-care problem in this country by messing around with "managed competition." You either have to eliminate the profit motive from the insurance industry or the government is going to have to fund universal health care. You guess which will work and which will cost an arm and a leg. Preventive medicine and personal responsibility for our own health will have to replace going to the doctor for every ache and pain.

The only treatment for our country's health-care problems has to be radical and extensive. Tinkering around with the symptoms is only going to make it worse. Either fix it or let it alone.

John Jacobs
 Scottsboro, Ala.

Right on, Paul Craig Roberts! The trouble with America's health-care insurance is that it is no longer insurance in many cases. It has become prepaid care with no participation in cost by the recipient. Insurance is a misnomer for such a plan.

Insurance should not cover routine expenses that one plans on, such as teeth-cleaning or an annual flu vaccine. When routine and expected expenses are covered, the cost is inflated by the additional paperwork required by the doctor and the insurance company that's paying the bill. Such costs have to be added to the insurance risk of the unexpected, true insurance costs that are rightly insured.

F. Eliene Mitchell
 Parkersburg, W. Va.

Roberts does not have his facts correct when he says that the "37 million uninsured Americans consist primarily of people who are temporarily without coverage while between jobs." The truth is that more than 75% of those without health insurance are working or are the dependents of people who are working, including many children.

This is a major problem for these people, and it is adding to the nation's problem of providing minimal care to the poor, including the elderly poor covered by Medicare. It's no wonder that our

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CORRECTIONS & CLARIFICATIONS

"A number-cruncher gets an 'E' for errors" (Top of the News, May 24) incorrectly described Automatic Data Processing Inc.'s handling of proxy votes for McGraw-Hill Inc., parent of BUSINESS WEEK. ADP was slow to tabulate the votes, but McGraw-Hill institutional shareholders did not express concern. In fact, nearly 90% of McGraw-Hill's outstanding shares were voted, and nothing occurred that in any way affected the validity of the overwhelmingly favorable votes for the candidates and proposals at McGraw-Hill's annual meeting.

"Conglomerates: They're Ba-a-ck" (Personal Business, May 24) mistakenly said Litton Industries Inc. had purchased Raytheon Co. Litton bought Raytheon's microwave-power-tube unit.

hospital emergency rooms are overwhelmed with critically ill patients who cannot pay.

James C. Ritchey
Mission Viejo, Calif.

CHASE BEGS TO DIFFER ON THE BOTTOM LINE

In regard to your article "Well, it looked like clear sailing" (Corporate Scoreboard, May 17), the Chase Manhattan Corp. reported first-quarter 1993 earnings of \$153 million, compared with \$141 million for the same period last year. Before taking into account several significant items of a nonrecurring nature, our first-quarter 1993 net income was \$179 million, or 61% higher than the same quarter last year, excluding \$30 million in tax benefits recorded in 1992.

Unfortunately, your compilers pharisaically chose to use a number that left some one-time items in while taking another out—and thereby left BUSINESS WEEK readers with a very misleading impression of our performance.

Steven A. Rautenberg
Director of Public Affairs
Chase Manhattan Bank
New York

Editor's note: BUSINESS WEEK's Corporate Scoreboards use earnings from continuing operations before extraordinary charges. That means we include pretax, one-time adjustments, such as Chase's \$566 million charge for disposition of real estate, and take out aftertax adjustments, such as the bank's \$500 million credit for a revised method of accounting for income taxes.

MORE EVIDENCE OF DEFLATION

Your conclusion that "this hidden disinflation means that for the first time in recent memory, the U.S. may be close to zero inflation" ("Is inflation down for the count?," Economics, May 10) is a breath of fresh air. Below are some additional weaknesses in the position that inflation remains a problem.

For a long time, there has been a growth in the relative importance of the second, or underground, economy, where prices are lower, as producers and consumers divvy up the tax revenues that would otherwise have gone to the government.

Many services are increasingly subject to a weakness in prices that are not taken into account in the official price indexes. The growth of seniors' discounts, children eating and sleeping free, and lower prices on certain days of the week are all evidence of deflation.

This failure to recognize the possibility of deflation still shows up in Alan Greenspan's plans to lower the growth rate in the 1993 money supply and in the recent decision of the Treasury Dept. to stop a \$50 billion increase in international liquidity through the creation of special drawing rights, as proposed by Michel Camdessus, managing director of the International Monetary Fund.

Lynn Turgeon
Professor Emeritus of Economics
Hofstra University
Hempstead, N.Y.

CITIBANK STANDS BY ITS STORY

Your "Tropical heat at Citibank" (Finance, May 17) story is wrong in its allegations and innuendo directed at a Citibank trader in Panamanian debt. You cited rumors he "had been selling Panamanian debt on Apr. 21, before reports that the talks [between Panama's negotiators and its bank creditors] had been inconclusive." In fact, we made no debt sales before that news hit the market.

The article disregarded a 9:23 a.m. Reuters report that the talks had "amounted to little more than what banking sources termed an exchange of information." BUSINESS WEEK referred to a call by our trader "sometime after noon," recollected by an anonymous "investor." From our records, we know that call was not to an investor but to another institutional market maker, a professional participant with the same access to information as our trader. In keeping with market practice, our trader asked for the other trader's prices for both buying and selling, and accept-

ed the quoted buy price—a typical trading transaction.

The story seemed to endorse an obvious innuendo, although it ultimately conceded there is no evidence that Citibank's trader had privileged information. The evidence makes clear that we did not, as we stated to your reporter on the basis of our thorough investigation of the record of trades and tapes, all trading desk phone calls. You acknowledged that we have strict rules to prevent trading improprieties—they worked on Apr. 21. Trades, in fact, were few in number, not substantial in volume, and consisted of buys as well as sells.

Malicious, unfounded rumors are an occasional byproduct of the flow of comment, information, and speculation in a market environment. Such rumors should not be the basis of articles in BUSINESS WEEK.

John M. Moore
Director, Media Relations
Corporate Affairs
Citibank
New York

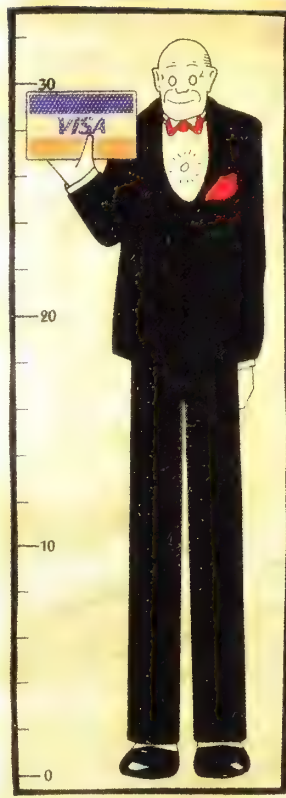
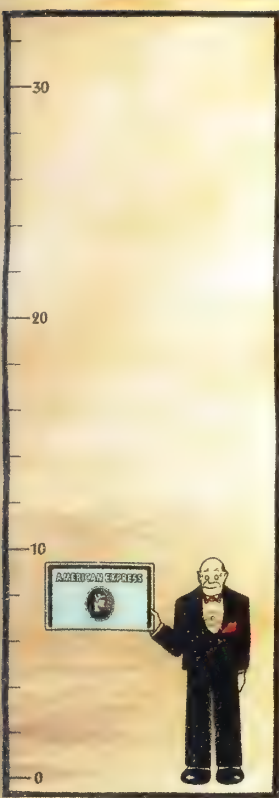
Editor's note: The 9:23 a.m. Reuters story reported on the previous day's trading and did not significantly affect Panamanian debt prices. Another Reuters story that "Panama does not intend to resume interest payments on its medium- and long-term bank debt in 1993" came on the wire about 5 p.m., after the trader cited in the story.

THERE'S METHOD IN THAT STUDENT-LOAN PROPOSAL

Regarding Dean Foust's comment ("Student loans ain't broke. Don't fix 'em," Finance, Apr. 5), I sincerely hope you don't consider President Clinton's idea of the federal government controlling student loans as just another random brainstorm. Take a look at how the government is going to set aside scholarship money for minorities to promote "diversity." Having more federal control over student loans would make it easier to disburse money in accordance with the "politically correct" agenda of folks such as Donna Shalala and would certainly eliminate nagging questions about academic qualifications. Such control would also fall in nicely for the government to use student loans as a stick to convince students that the National (Socialist) Student Service Corps envisioned by the President isn't such a bad idea. I may be wrong, but these seemingly disparate pieces seem to fit together.

David M. C...
Fort Hood, T...

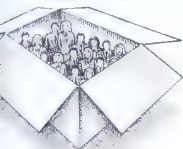
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And AmEx can deliver a ton of households with incomes over \$50,000. (Of course, Visa can deliver three tons of the same coveted cargo.)



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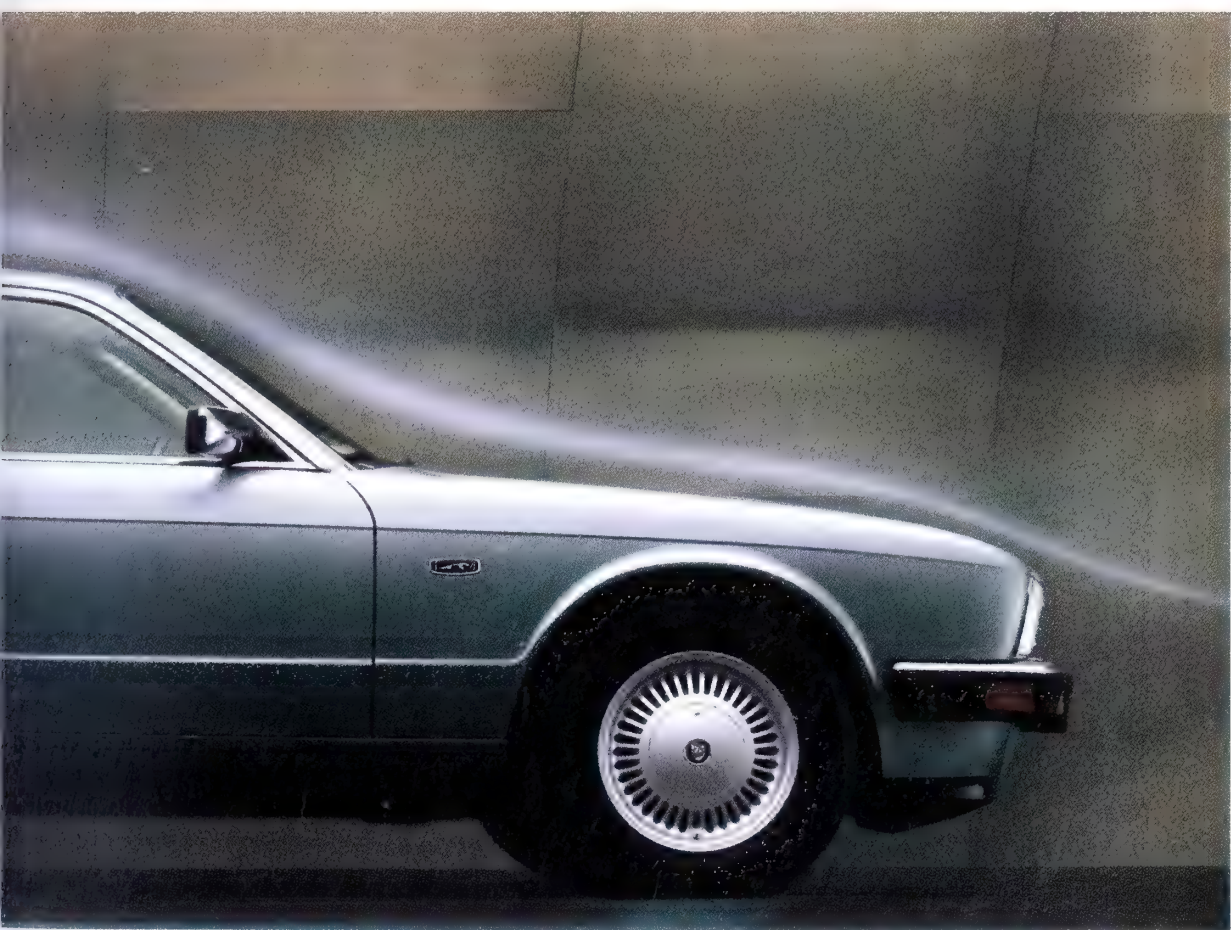
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THE SPARKLE HASN'T LEFT 47TH STREET

In "It's rough in the diamond district" (Letter From New York City, May 3), there is an overly negative picture of 47th Street and the American diamond industry. The claim that "47th Street may soon be a footnote in New York's history books" is off the mark and unfounded. New York in the most recent decade shows strength and growth, in spite of adverse economic conditions. According to the U.S. Commerce Dept., more than 95% of all loose polished diamonds coming into the U.S. came through New York. The value of these imports has risen from \$1.6 billion to \$3.6 billion during the past 10 years.

Comparing the drop in cutters here with the number of cutters in India is mixing apples and oranges. The falling number here reflects a change in the categories of diamonds cut but not the diminishing manufacturing values.

The price of a 1-carat diamond—\$63,000 some 13 years ago but just \$13,500 now, according to the article—reflects only the fact that diamonds, along with all other commodities, are affected by economic conditions. The reference to lower rents on 47th Street reflects the competition for tenants that has been rampant throughout New York (and much of the rest of the country).

The article quotes: "The players—if 100 of them left New York, this industry would be finished." But if only four major automobile manufacturers or 10 steel manufacturers left the U.S., these industries would be finished, too. There is no movement away from our country by these industries, and there is no movement away from New York by the diamond industry.

Lloyd Jaffe
Chairman
American Diamond Industry Assn.
New York

New York's diamond and jewelry industry succeeds because it provides a critical mass of human capital, physical availability of product, and major financial resources. The 47th Street market and its players are strong. They, like many New Yorkers, would rather fight than run.

Martin Rapaport
Publisher
Rapaport Diamond Report
New York

Letters to the Editor should be sent to Readers Report, Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax (212) 512-4464. All letters must include an address and daytime and evening telephone numbers. We reserve the right to edit letters for clarity and space.



COVERING A PIT WITH PLASTIC AND GRAVEL: BUTTE HOPES TO EXPORT ITS CLEANUP EXPERTISE

SILVER LINING IN A TOXIC COPPER TOWN

Third-generation Butte resident John S. Cote grew up knowing this copper town was a dangerous place. A saloon-keeper's son, "Harp" Cote—his childhood nickname came from his freckle-faced, Irish looks—talks of boyhood friends who made firecrackers from blasting powder and pipe. He remembers when his schoolyard caved in because it was undermined by tunnels and the time a group of children in McQueen, the Austrian district, were killed playing with dynamite.

"But we were never told the dumps were toxic," says Cote, 69. Those piles of contaminated tailings, the leftovers from processing copper ore that leach into Butte's water, may pose the greatest danger of all. They're loaded with lead, cadmium, zinc, copper, and other metals linked with health problems.

Harp Cote knows all about the dumps now because Butte is the center of the country's largest Superfund site—actually four sites that stretch northwest 100 miles from Butte almost to Missoula. He is a leader in Superfund cleanup as chairman of Montana Energy Research & Development Institute Inc. Its Montana Technology Cos. subsidiary may earn as much as \$10 million this year testing techniques for treating contaminated soil and water.

The Environmental Protection Agency and ARCO, which is liable for the sites

because it purchased Anaconda Co. in 1977, have committed \$100 million to the first stage of the cleanup, which started in 1985. The final cost could be two or three times that amount. The cleanup is a blessing both environmentally and economically. Unemployment has rebounded from 20% after the pit closed, but is still 9% and the town is smarting from the shift to low-wage service jobs. So local entrepreneurs hope that, by cleaning up their own backyard, so to speak, they can develop the expertise to perform similar work elsewhere.

"As ironic as it seems, there's a real possibility Butte will be on the cutting edge of cleanup technology," explains Montana Governor Marc Racicot during a visit to Butte. The irony, he notes, is that if all goes well, Butte will probably be cleaning up the very mess that enriched it for over a century.

BLOODY DAYS. In the old days, Butte was known as "the richest hill on earth." Thousands of miners worked underground in mines like the Neverswe and the Speculator, where 166 men were killed in an underground fire in 1916, the worst hard-rock mining disaster in U.S. history. Over the years, the mines were consolidated into Anaconda, which eventually switched from underground to surface mining. Its giant Berkeley Pit consumed many of Butte's ethnic communities such as Finntown and Pe-

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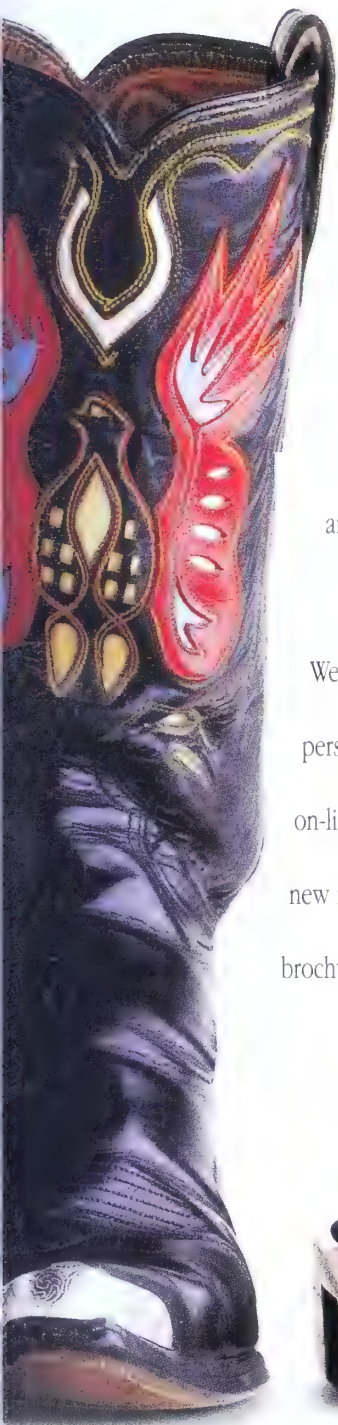
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Letter From Butte, Montana

rot Flats, where the Slavs lived, until it was shut down in 1983 by Arco, Anaconda's parent. Today, the pit, which is filling up with 5 million gallons of water a day, dominates Butte like a gigantic, open sore.

During its heyday in the first half of this century, Butte was a prosperous, bawdy town. The last whorehouse on "Venus Alley" was shuttered just a decade ago. Dashiell Hammett, once a Pinkerton agent in Butte, called it Personville (pronounced "Poisonville") for his bloody detective novel, *Red Harvest*.

"We took in a dollar a minute—back when we had silver dollars and food was reasonable," says Carl Rowan, 83, who operates Gamer's, a restaurant. He tells of a time when Gamer's sold its own candy in huge copper-colored boxes and packed miners' lunch buckets with pasties, the traditional Cornish meat pies. One weekend, Gamer's baked 125 birthday cakes and 12 five-tiered wedding cakes, Rowan says.

This is Rowan's last day at Gamer's. After 50 years, he's a statewide celebrity and his retirement brings out hundreds of friends, including Cote and the governor. Butte is a closely knit town, where the past is always present. People are quick to reveal their ethnic origins and tell family stories. They're proud that in the old days, when America thought of copper, it thought of Butte.

Now, residents hope that when Americans think Superfund, they'll think of Butte. Scores of companies are springing up with methods to clean up Butte's soil and water. Eventually, says Evan D. Barrett, executive director of Butte Local Development Corp., they may create 1,000 jobs in the next few years, and that doesn't include spin-off employment.

"We'll clean up the city and provide an economic base as we export these services," says Joseph F. Figueira, associate dean for research and graduate studies at Montana College of Mineral Science & Technology in Butte. There, environmental engineering is the hottest major. Superfund technology accounts for 20% of the college's \$3 million research budget and could reach 40%, he says.

"There's not a better test lab than this. It's got all the raw materials—dead ground, toxic metals that leach into the waterway," says Rick Foote,



BUTTE'S HISTORIC DISTRICT: "THE RICHEST HILL ON EARTH"

editor of the *Montana Standard*, Butte's daily newspaper, over Chinese food at the Pekin Noodle Parlor. "This is a fish-killing son of a bitch." The Pekin is a Butte landmark, and so is Foote, a one-time miner whose grandfather he, confides, was killed in a Butte saloon brawl.

GRUNT WORK. One of the startups is TransMar Inc. On the flats south of town, TransMar feeds slurried mill waste from Butte's last underground mine into a machine that uses pulsation and centrifugal force to separate toxic heavy metals. Nearby, engineers at Mycotech Corp. work with soil from the "pole yard," one of the four Superfund sites where poles were once painted with creosote to keep them from deteriorating. They treat the dirt with fungi that produce enzymes to break down the toxins and render them harmless.

Clifford Bradley, Mycotech's director of research and development, hopes an-

other type of fungus could be used to clean up water in the Berkeley Pit, removing the toxic metals in such a way they could be sold to pay for the treatment. "Five hundred dollars' worth of copper could stick onto \$1 worth of fungus," he claims.

Other businesses here profit from Superfund grunt work. A lot of the cleanup is not high-tech, whiz-bang stuff," says David K. Nation, vice-president and general manager of Special Resource Management Inc., a subsidiary of Montana Power Co. His company loads trucks with contaminated material from the old smelter at Anaconda, 15 miles away, and moves it to a secured area.

The Superfund could bring other significant long-range benefit to this historic town: increased tourism. Only 7% of tourists who zip by on the high-

way between Glacier and Yellowstone National Parks stop in Butte, and they stay only a few hours. Butte has plenty of tourist potential with its copper-king mansions and old storefronts. There's an extensive mining museum, a restored part of town called Hell-Roaring Gulch, and the famous Butte hill pockmarked with mine pits and dotted with superstructures known as "gallows frames."

Mark A. Reavis, the local historic preservation officer, hopes to raise \$1 million over 15 years and turn Butte into a national landmark district on the order of Lowell, Mass., where the mills and boarding houses have been preserved as a sort of living museum. He envisions a raft of improvements, including a tourist railroad called the No. 1000, and a 20% increase in jobs. The money, he says, will come from preservation grants, private contributions, and even the Superfund. ARCO has already spent \$250,000 on historic work.

Preservation underscores another irony in Butte, pointing out Sandra M. Stash, ARCO's Superfund manager. Over lunch at Columbia Garden (named for the turn-of-the-century amusement park supposedly consumed by the Berkeley Pit), she says with a laugh: "Our man's toxic waste is another man's historic resource. And a proud old copper town's economic future."

SANDRA D. ATCHISON
Correspondent Atchison
based in Denver, set her
1990 novel in Butte.





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THE MAN WHO STAYED BEHIND

By Sidney Rittenberg and Amanda Bennett
Simon & Schuster • 476pp • \$25

'MY LIFE'S VISION WAS FLAWED'

What kept me turning the pages of *The Man Who Stayed Behind* was not any great love for its author, Sidney Rittenberg. He stands for many things I find abhorrent. As a correspondent in Beijing more than a decade ago, I had to contend with a Communist Party bureaucracy that spun big lies. Rittenberg, an American, spent many years helping turn out that propaganda. He also took part in political attacks on people during the Cultural Revolution. Even though that upheaval was over by the time I arrived, I came to know Chinese people whose relatives had died in their arms, denied medical care because they were considered "counter-revolutionary." Millions of others were killed outright or forced to commit suicide.

But one needn't admire Rittenberg to

find his story fascinating. The South Carolinian went to China as a U.S. soldier during World War II and stayed on to work for the U.N. Already a self-described Communist, he hooked up with China's Communists and was accepted at the Party's highest levels. In the late 1940s, he lived with Mao Zedong, Zhou Enlai, and other men and women of the Party leadership in the remote caves of Yanan. He ate with them, danced with them, slept with them. He was bombed by Kuomintang fighters and saw Mao lure Chiang Kai-shek's forces to their destruction.

While Mao has been extensively chronicled, few outsiders have been able to make such personal observations. "Mao had a way of focusing his gaze squarely on whoever was speaking, shutting out the rest of the room," Ritten-

berg writes. "The attention was intense and flattering." Overall, Mao emerges as brilliant, ruthless, and cold. "His thought of China—and the world, to some extent—as an experimental laboratory in his hands," the author writes. "None of the ordinary human relationships...were important to him." The emotional dead space helps explain how Mao could later launch the political struggles that inflicted such suffering.

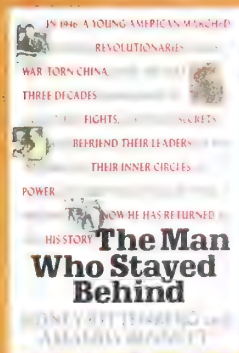
Rittenberg's luck ran out in 1949 when his Communist buddies falsely accused him of being a U.S. spy and sent him to prison for six years. After he was exonerated, he worked turning out Party radio broadcasts. Then, beginning in 1968, he served another decade of trumped-up charges—a total of 16 years in solitary confinement. On one level, you have to admire a man who survives such brutality with even a semblance of sanity. For years, Rittenberg was required to sleep on his side, facing the cell door, so that guards could always see his hands. He withstood interrogations and intense psychological intimidation. What carried him through with faith that his ordeal would ultimately benefit his credibility within the Party? That's the unfathomable part: He b

zed he was achieving nothing.

Near the end of his second prison term, the e turned against Mao's low, Jiang Qing, leader the so-called Gang of ar, and she was sent the prison where Rittenberg was held. And re are more precious bits: He tells of hearing the Dragon Queen iling from her cell, nplaining about her d and shouting to co-conspirators. Then tough country jailer eatens: "Do what I're told or else I'll fix i good." It shows there can be a certain justice, even in China.

One of the book's most touching nes comes when Rittenberg emerges m prison the second time and is reted with his Chinese wife, their son, l three daughters. The three young men dance around him, saying, "Dad-guess who's the oldest." But he can't l them apart. "I had been away too g," he writes. "I could not find the lit-faces of my children in the grown-ups es I now saw before me." What a

Rittenberg paid a steep price for his belief in China's Communist Party: 16 years in solitary



devastating price he paid for his beliefs.

It was partly through the eyes of his adult children that Rittenberg at last saw a Communist Party grown corrupt and out of touch. Deng Xiaoping's encouragement of free-thinking forces, as evidenced at Democracy Wall, and then his crushing of the movement when it had served his purpose, disillusioned Rittenberg as his own travails never had. "I had no intention of spending the rest of my life serving those whom power had corrupted . . .," he writes.

live near Seattle, advising U.S. companies on selling in China. I, for one, am not inclined to pour opprobrium on a lifelong Communist who tries to get rich the old-fashioned capitalist way—which is what all of China is doing. That Rittenberg survived is amazing. And—love him or hate him—he offers a window on a China few outsiders have ever glimpsed.

BY WILLIAM J. HOLSTEIN
International Edition Editor Holstein was Beijing bureau chief for United Press International in 1981-82.

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AN AGENDA FOR GROWTH ANY POLITICIAN CAN ENDORSE

BY ROBERT KUTTNER



The postwar boom can be replicated—but only if the U.S. leads industrial nations toward common goals of public investment, low interest rates, stable currencies, and fair trade

This spring, French voters dumped their Socialist government in parliamentary elections, while British voters in local elections handed the ruling Tories their worst drubbing in a century. Electorates are weary of economic stagnation, no matter which government is in power.

It has been 20 years since the postwar boom faltered in 1973. The quadrupling of the price of oil was the immediate cause, but that same year the Bretton Woods system of stable fixed exchange rates collapsed. The U.S. dollar was no longer the anchor of an orderly world financial and trading system.

Governments of various stripes have tried diverse remedies to restore growth to the 4% annual range of the postwar boom, which allowed near-full employment and social progress throughout the industrial West. In the U.S. and Britain, radical conservatives sought to slash taxes, reduce the welfare state, and reward entrepreneurship. But neither conservative program worked: Growth did not return to the levels of the postwar boom, and living standards continued to stagnate in both countries.

On the Continent, meanwhile, social democrats also broke their picks on the economy. In 1981, the French Socialists, under President Francois Mitterrand, attempted an ultra-Keynesian program of economic stimulus. This could not work, since stimulating demand in one trade-dependent country only pulls in imports and leads to financial imbalance. Mitterrand was compelled to rein in his program and link it to the sound-money strategy of his far more conservative German neighbors.

But Germany, like France, had sluggish growth in the 1980s and is now further constrained by the cost of financing the reconstruction of its eastern region. Western Europe as a whole has unemployment in excess of 10%. And because of its common market, no country can successfully go it alone.

Is this the best we can do? All Western governments—whether conservative, liberal, or social democratic—share a common interest in reelection. All need to restore growth, jobs, living standards, and hopes. In Europe as well as America, it's the economy, stupid!

The Clinton Administration wants to revive the Group of Seven (the finance ministers and central bankers of the U.S., Japan, Germany, France, Britain, Italy, and Canada) and turn it into a real mechanism for economic-policy coordination. But that's not enough. Policy must be coordinated on behalf of high growth, full employment, and the reregulation of laissez-faire global finance.

It is too easy to conclude from the com-

mon and seemingly intractable problems afflicting diverse governments that the dilemmas are now "postideological." In fact, one big ideological issue underlies all the particular policy choices: Should we keep moving further toward laissez-faire policies or recognize that a big dose of intervention is required?

Economic history suggests that markets by themselves, do not yield high growth, full employment, or financial stability. Today, deregulated financial markets trade more than \$1 trillion of currencies daily, and the pure speculative movement of currencies overwhelms money used to finance actual commerce. Escalating financial speculation on diverts resources, deters investment, and breeds further speculation. So the issue is not just "coordination," but coordination on behalf of a sustainable, mixed economy.

The major industrial nations need:

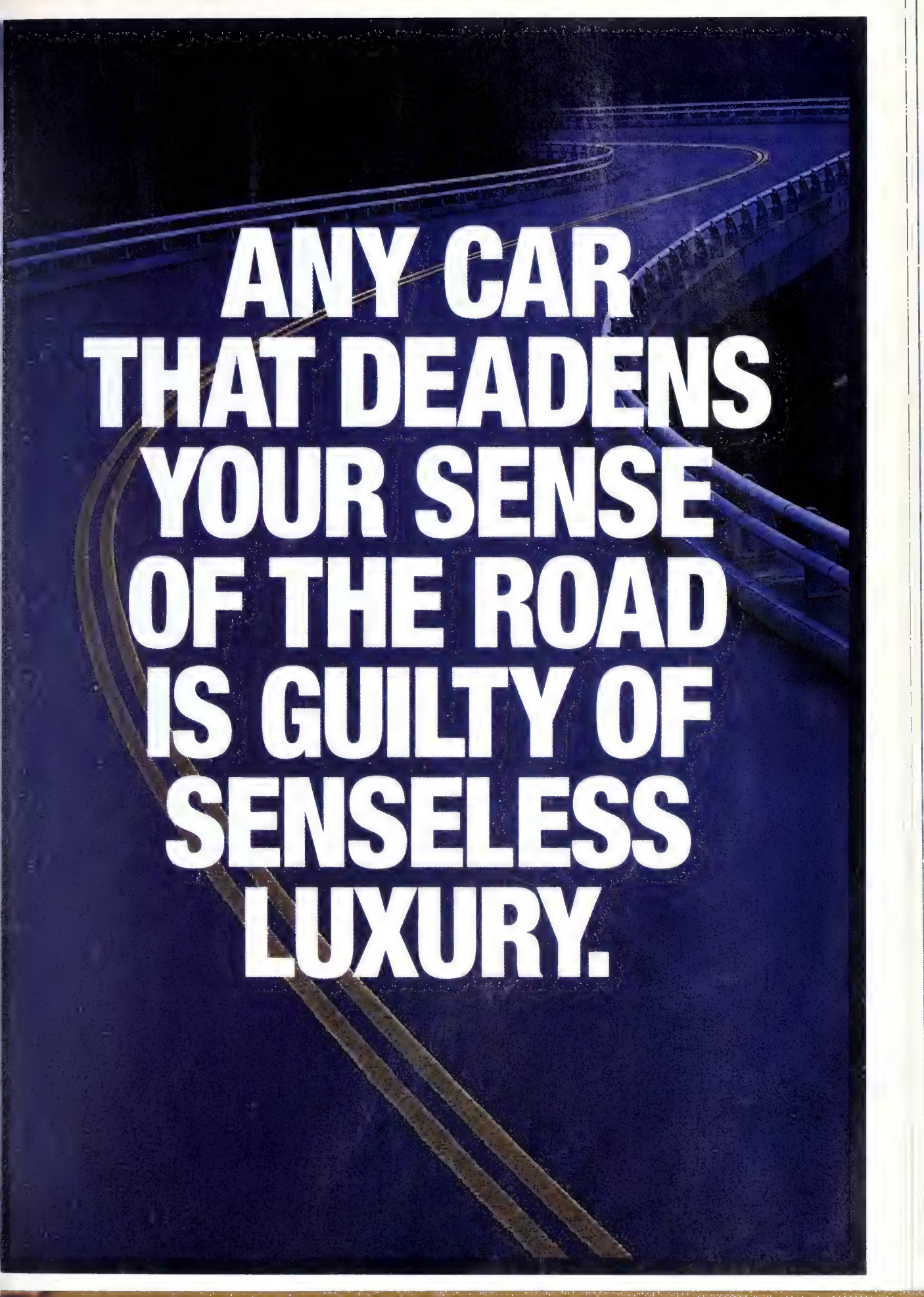
■ **A common commitment to high growth.** This must be based on significant increases in public investment and a supportive policy of low interest rates by central banks. The Clinton Administration, like the Bush Administration before it, badgered Japan to stimulate its economy with public works. The Japanese responded with a \$120 billion program. Germany has been stimulating the economy of its eastern region with massive capital transfers, yet it has undermined any net stimulative effect with high interest rates—which depresses growth in the rest of Europe. If all the nations raise investment levels and agree to keep interest rates low, all will benefit.

■ **A new Bretton Woods.** The era of high growth was one of stabilized and regulated global finance. We need stable currency values, a tax and regulatory policies to take the profit out of purely speculative financial transactions, as well as the long-term low interest rates to promote development. This is particularly important for the recovery of the former communist world.

■ **Completion of the GATT Uruguay Round.** The completed General Agreement on Tariffs and Trade means trade based on common rules, not on utopian laissez-faire. If we can't get universal free trade, let's at least have relatively liberal trade within a family of nations that can agree on common ground rules. The rest of the world—notably Japan—can have conditional access to the markets of the nations that follow those common rules.

Only one nation can take the lead on behalf of this agenda, and that is the U.S. The next economic summit should seriously begin the task of restoring world growth. That would also be salutary for Bill Clinton's reelection, and for that of every other politician who must face the voters.

ROBERT KUTTNER IS CO-EDITOR OF THE AMERICAN PROSPECT AND AUTHOR OF THE END OF LAISSEZ-FAIRE



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THREE NEW V8's BRING RESPON



sophisticated front/rear suspensions on the planet, the 540i gives you what could be the best active safety feature of all — the ability to read the road with your fingertips and steer clear of danger. It also gives you an on-board computer that warns of possible freezing conditions, and optional Traction Control, for added protection on slick terrain.

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530i



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Economic Trends

BY GENE KORETZ

A MANIC-DEPRESSIVE CYCLE HITS THE SMALL BUSINESS SECTOR

It was only a few months ago that the nation's small-business sector, exhilarated by a pickup in sales at the end of last year, exhibited a welcome surge of confidence about the economic outlook. Now, however, the latest quarterly membership survey of the National Federation of Independent Business reveals a dramatic mood change. After hitting its highest first-quarter reading since 1989, the NFIB's small-business optimism index sank in April to its lowest level since the recovery began.

What caused the loss of confidence? Instead of improving in the first quarter as respondents had anticipated, real sales actually weakened. "It's typical of what's been happening in this recovery," says NFIB economist William C. Dunkelberg. "Sales rise in one quarter and then tank in the next. Small-business owners are tired of getting their hopes up."

Chastened by last quarter's results, only 21% of the 2,200 businesses sur-

ahead have weakened—indicating little confidence that demand will pick up.

On the positive side, capital-spending plans by small companies, which rose significantly in the first quarter, remained relatively strong. And there's been a noticeable increase in the number of businesses that have either raised prices a bit recently or hope to do so, suggesting that companies are taking advantage of what little strength the economy possesses to improve margins. But the bottom line, says Dunkelberg, is that "small business is still waiting for evidence that the expansion has entered a higher growth track."

FALLING INTEREST INCOME SETS A RECORD OF SORTS

Although falling interest rates have helped borrowers in recent years, they have also cut sharply into interest income received by households. Indeed, while many economists underscore the stimulative effects of lower rates on consumer outlays, others claim that the inhibiting impact of declining interest income is more important.

Economist Tony Riley of A. Gary Shilling & Co. points to a new development that bolsters the latter argument. Historically, the cash interest income received by consumers (excluding so-called "imputed interest income," such as interest earned on life insurance and pension plans) has always exceeded the interest paid by consumers on their outstanding debt. Indeed, in early 1989 the difference came to a healthy \$82 billion.

What is new, says Riley, is that such interest income has now fallen so sharply that by the fourth quarter of last year it was no larger than interest paid out by households. "If recent trends continue," he says, "consumers in 1993 will for the first time be paying more in interest than they currently receive, and that can't be good for consumption."

TO THE NIMBLE GO THE BIGGEST TAX BREAKS

When Congress acted in 1986 to cut corporate income taxes, it gave some corporations an even bigger break than it may have intended. That's because companies changed their behavior to capitalize on the drop in the tax rate from 46% to 34% that was phased in during 1987 and 1988. According to a new study by economists Myron Scholes

and Mark Wolfson of Stanford University's business school and Peter Wilso of the Harvard business school, many companies were able to shift their income and expenses to cut their overall taxes during the transition period.

The three researchers analyzed the financial statements of some 812 publicly traded companies in the 1986-88 period. They found that an average company was able to reduce its tax liabilities by about 2% during the three years by accelerating such expenses as pension contributions and outlays for advertising and R&D and by moving sales into years when the lower taxes applied. For the sample as a whole, the total amount of taxes avoided by such actions came to an impressive \$373 million.

Not every company was nimble enough to cash in on the tax change. The researchers estimate that 98% of the savings were reaped by the top 20% of their sample, big corporations whose sales ran into the billions. The average member of this select group managed to ring up tax savings of \$2.24 million.

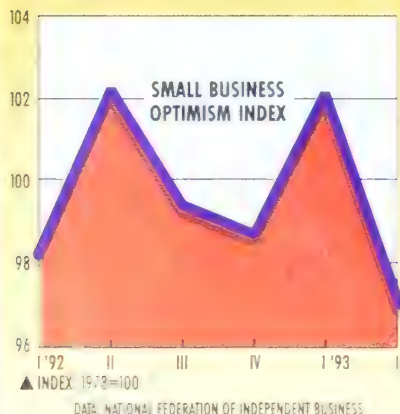
CHINA'S GOLD BUGS ARE SPOOKING THE BOND MARKET

Call it the Chinese connection. According to economist David D. Hale of Kemper Financial Services Inc., participants in currency and financial markets would be well advised to keep an eye on Chinese economic policy.

The reason: Hale says it was strong demand for gold from China's overheated economy that sparked the interest of investor George Soros and led to a runup in gold prices that spooked the bond market. And he claims it was fear that the gold price surge and bond market drop could trigger a flight from dollar assets by Japanese investors that led the Treasury to abandon its hands-off policy and intervene in currency markets in early May to prop up the dollar against the Japanese yen.

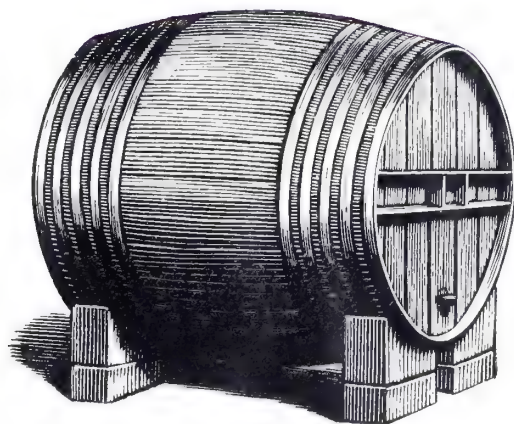
What's more, since the surge in gold prices was followed by some bad U.S. inflation numbers, it has reinforced the view that gold prices are an uncannily accurate signal of underlying inflationary pressures. Thus, "gold, which is really reflecting demand from Chinese buyers rather than U.S. inflation, is likely to impact bond-market sentiment even more in the months ahead," argues Hale. And both the Treasury and the Federal Reserve will have to adjust their policies accordingly—until China acts to curb its double-digit inflation and the gold purchases it is fueling.

SMALL BUSINESS IS LOSING HEART



veyed expect business conditions to improve over the next six months, compared with 38% in the first quarter and 44% a year ago. And they aren't adding workers. On average, small companies reduced their job rolls last quarter for the 11th time in a row. "Only the starting of new firms, which is not reflected in our survey, is adding anything to the employment picture," says Dunkelberg.

Indeed, though inventories rose in the economy as a whole last quarter, they actually declined a bit in the small-business sector. And small companies' plans to add to inventories in the months



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THE SPRING ECONOMY IS STILL HAWING OUT FROM THE BLIZZARD

The March blizzard may be a distant memory, especially with the approach of Memorial Day weekend and the start of summer. But even as Americans swap their snowsuits for swimsuits, the economic data are still showing the aftereffects of the storm.

That's especially true for inventories. The Commerce Dept.'s latest report shows that weather-related drops in retail sales and homebuilding caused business inventories to swell by 0.8% in March, the biggest gain in nearly four years. Because stores were closed during the blizzard, retail stockpiles ballooned by 1.5% in March, and the ratio of inventories to sales in retailing jumped to 1.61—the highest in more than two years (chart).

RETAIL INVENTORIES: PROBLEM OR BLIP?



patched in April and May. That should clear the way for further output gains in coming months.

A HEALTHY SURGE IN RETAIL SALES

Some of the most encouraging news for the second quarter comes from retailers and homebuilders. Retail sales rebounded by a strong 1.2% in April, more than offsetting the 0.8% drop in March. Car dealers and department stores—where the inventory buildup was particularly great—increased their sales sharply in April, and receipts at gasoline stations and apparel and building-supply stores also were higher. After adjusting for inflation, real retail sales started the second quarter about even with their first-quarter average.

The initial data for May suggest further spending gains. Sales of domestically made vehicles looked healthy in early May, and department store sales for the first two weeks of the month were running 1.2% above their April average, according to the *Johnson Redbook Report*, providing more evidence that the sales weakness in February and March was mainly due to the weather.

In addition, the resurgence in homebuilding presages better times for retailers selling home-related goods and the manufacturers who make them. After a weather-

beset dip of 3.6% in March, housing starts bounced back by 6.7% in April, to an annual rate of 1.21 million (chart). Starts should continue to climb into the summer. That's because housing demand remains high, while the supply of unsold new homes is at a 20-year low.

THE APRIL CPI JARS THE BOND MARKET

Certainly, builders and house-hunters alike are watching the latest rumblings in the bond market, caused by indigestion from April's hot inflation numbers. Both the total consumer price index and the core index, which excludes food and energy, rose by 0.4% last month. The gains were the third larger-than-expected rise this year. So far in 1993, CPI inflation is running at an annual rate of 4.3%, and the core rate is 4.5%, raising speculation about the Federal Reserve's next policy move (page 28).

The April CPI advance, coming one day after a 0.6% spike in producer prices, jarred the bond market. After the CPI figures were reported on May 13, the yield on the 30-year Treasury bond closed at 6.93%, up from 6.81% two days earlier. Yields drifted even higher, hitting 7.02% on May 18, before retreating.

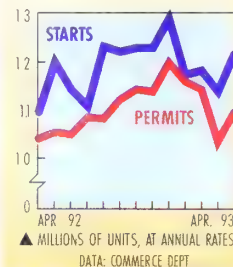
The sell-off in the bond market means mortgage rates will rise, but that may not curtail the housing rebound. The average 30-year fixed mortgage rate stood at 7.48% on May 14, but HSH Associates reports that some lenders have subsequently lifted their rate to 7.53%. Still, that is far below the 8.9% rate of a year ago.

Moreover, inflation is not the threat that those scary-looking indexes suggest. If monthly CPI gains average 0.2% through year-end, which is easily possible, 1993 inflation will come in at 3%, following 2.9% for 1992. Modest growth in demand, combined with slower growth of unit labor costs, argues against any sustained speedup in inflation. So the price indexes—and long-term rates—should settle back down.

Although mortgage rates matter, jobs and incomes may be more important factors for the housing outlook right now. Because hiring and income growth are steadily improving, households feel there are fewer obstacles to buying a house today than in 1992, according to a survey done by the Federal National Mortgage Assn.

The Fannie Mae report also shows a sharp decline in the percentage of households that worry about their in-

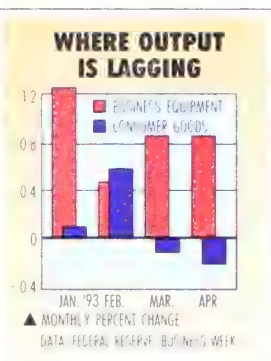
HOUSING BOUNCES BACK



Business Outlook

come being too small or their jobs too insecure to buy a house. As long as employment and incomes continue to rise, demand for housing is unlikely to falter.

The spring rebound in homebuilding will pump new life into the production of construction materials, which was another casualty of the weather. Also, the stronger housing market will lift sales and output of furnishings, appliances, and other home-related goods.



Further gains in consumer spending are important because the latest data on industrial production illustrate the damage a dearth of shoppers can do. In April, manufacturing output rose a solid 0.4%, after a slim 0.1% gain in March. The strength, however, is coming from business-equipment makers, who boosted production by 0.8% in both March and April. Consumer-goods output slipped by 0.1% in March and a further 0.2% in April (chart). The storm-related buildup in store inventories most likely caused the cutbacks.

But even with that bit of sluggishness, the industrial sector shows few signs of slumping again. Overall industrial production rose by 0.1% in April, but it was depressed by a weather-related 3.6% drop in utility output. Moreover, the April operating rate for all industry was unchanged from March's 81.4%, and the Federal Reserve's revisions to capacity show that industry is using 1.5% more capacity than was first thought.

One area where U.S. manufacturers face problems, though, is foreign trade. Recessions in Continental Europe and Japan still hamper exports, while imports are grabbing a disturbingly large share of U.S. markets. That trend continued in March. The merchandise trade

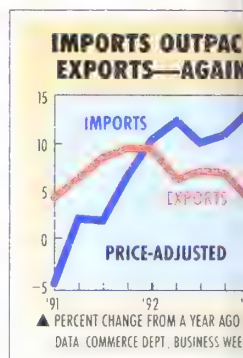
THE TRADE GAP HITS A FOUR-YEAR HIGH

are grabbing a disturbingly large share of U.S. markets. That trend continued in March. The merchandise trade

deficit ballooned to \$10.2 billion, an increase from February's figure of \$7.9 billion. That was the largest monthly gap in four years, and it is likely to cause a downward revision in the 1.8% growth of first-quarter gross domestic product.

That shocking deterioration was caused by imports which jumped 9.7%, to \$49.2 billion. The gain was brought about by imports of consumer goods were particularly strong. Like their American cousins, however, many of the foreign goods ended up in inventory in March, suggesting that imports will fall back in the next few months.

The U.S. addiction to imports, which lay dormant during the recession, seems to be roaring back. In the first quarter, price-adjusted imports were up 13.4% from a year ago, while exports rose by a smaller 4.9% (chart). America's import growth has not outpaced its export growth since the mid-1980s.



Of course, not all the news on the trade front is bad. Exports grew by 5.6% in March, to \$39 billion. That's just a shade below their record of \$39.2 billion posted in December. Growing demand from developing countries is offsetting some of the sting from recessions in the industrialized nations. Moreover, exports to Britain, the fourth largest market for U.S. goods, are starting to turn around, now that its economy is recovering.

To be sure, the continuing inventory adjustment means that manufacturers are unlikely to repeat their robust performance of the first quarter. But last month's combination of strong retail sales and sluggish output of consumer goods suggests that retailers already have corrected some of their inventory surplus. And with housing and consumer spending still advancing, goods-producers should post steady, if modest, gains into the summer.

THE WEEK AHEAD

CONSUMER CONFIDENCE

Tuesday, May 25, 10 a.m.

The Conference Board's index of consumer confidence for May probably slipped to a reading of 65.8, down from 67.7 in April. That's the median forecast of economists surveyed by MMS International, a division of McGraw-Hill Inc. Better job growth likely lifted consumers' assessment of the present state of the economy, but the prospect of higher taxes is crimping households' optimism about their financial future.

DURABLE GOODS ORDERS

Wednesday, May 26, 8:30 a.m.

New orders taken by durable goods manufacturers probably increased by

1.5% in April. Orders dropped by 3.4% in March, but most of that decline was in aircraft. Continued cuts in defense ordering probably offset gains elsewhere last month. The small increase projected for new orders suggests that unfilled orders, which dropped 1.2% in March, fell again in April.

GROSS DOMESTIC PRODUCT (REVISION)

Friday, May 28, 8:30 a.m.

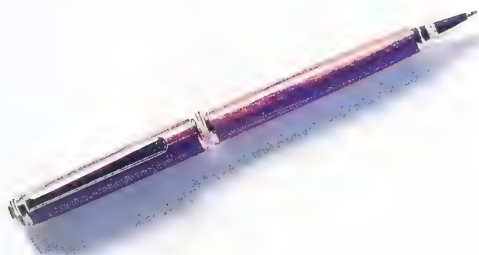
The Commerce Dept.'s second look at the first quarter is likely to show slower growth than the pace of 1.8% reported originally. The huge widening in the March merchandise trade deficit suggests that the net export deficit will be revised sharply upward. Elsewhere, business inventories may not have accu-

mulated as much as originally thought while consumer spending and homebuilding may be revised slightly upward. The economy grew at a rapid 4.7% clip in the fourth quarter.

CORPORATE PROFITS

Friday, May 28, 8:30 a.m.

Aftertax profits at nonfinancial corporations probably grew by 6.8% in the first quarter, on top of an 8.5% advance in the fourth quarter. Sluggish demand held back company revenues last quarter, even as productivity gains slowed the growth of labor costs and low interest rates reduced interest payments. Earnings may also have been hurt by payouts by insurance companies after the March blizzard.



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INFLATION OR ILLUSION?

APRIL'S INDICATORS HAVE THE FED THINKING THE UNTHINKABLE

This was supposed to be an easy year for Alan Greenspan. The chairman of the Federal Reserve Board figured there would be little need for major changes in monetary policy, what with the economy slowly improving, President Clinton pushing deficit reduction, banks getting healthier, inflation in check... but wait a minute. Out of nowhere, inflation has popped into the Fed's scopes. Suddenly, Greenspan's reverie has ended.

Just a few weeks ago, it seemed inconceivable that the Fed would consider nudging up interest rates in the face of sluggish growth. But unexpected bad news on the price front in April has made the unthinkable thinkable. Now, after four years of declining interest rates, both central bank insiders and Fed watchers agree that the debate among monetary policymakers has shifted from

"whether" to tighten money to "when."

It's not a move that the Fed would make lightly. Higher rates would bring an abrupt end to Greenspan's honeymoon with Clinton, whose ardent courtship of the Fed chief included a seat next to Hillary Rodham Clinton at the President's Feb. 17 State of the Union address. The last thing Clinton wants is to have the Fed apply brakes to an economy that isn't even meeting the Administration's own measly 3% growth forecast. Tightening now also could jeopardize passage of Clinton's economic package. "If the Fed raises interest rates, the next sound you hear will be the breaking of the new china," warns a top Administration official. "To say the White House would go ballistic might be an understatement."

The markets feel the tension, too. The Dow Jones index jumped 55.6 points on

May 19, as traders bet the Fed would not tighten. Ultimately, the market may need reassurance that the central bank and its chairman still walk the anti-inflationary beat. "The Fed can't even begin to be seen as asleep at the switch," says David M. Jones, a veteran Fed watcher at Aubrey G. Lanston Co., a New York government-securities dealer. Already, the price of gold, an early warning of inflation fears, has jumped above \$380 an ounce, the highest level since early 1991. And the yield on 30-year Treasury bonds, which hit an all-time low of 6.75% this spring, breached 7%.

"SLICE AND DICE." Meanwhile, there's growing pressure by some Fed members for a change. When the Fed's policymaking Federal Open Market Committee met on May 18, it knew that its prediction for a 1993 inflation rate lower than

TIGHTER MONEY: THE CASE FOR AND AGAINST

After four years of easing credit, the Federal Reserve Board is becoming worried about inflation. But is it time for a change in policy? Here are the arguments each side has made

THE HAWKS



ANGELL



MULLINS

A slight tightening now could nip inflation in the bud by sending the markets a signal of Fed resolve

ADHERENTS:

Wayne D. Angell, Fed governor
Robert D. McTeer Jr., Dallas Fed
David W. Mullins Jr., Fed vice-chairman
Edward W. Kelley Jr., Fed governor

2's 2.9% was simply wrong. In the first four months of 1993, the consumer price index rose at a 4.3% annual rate, and producer prices at a 4.8% clip. "You slice and dice it any way you want, the fact is we have a new trend line showing higher inflation," says Lawrence A. Kudlow, Bear, Stearns & Co.'s chief economist.

The inflation numbers have since lengthened the hand of Fed hard-liners. Even at the FOMC's March meeting, anti-inflation hawks had dissented from the majority's decision to keep monetary policy on hold. "I'm not sanguine in regard to the outlook for inflation," said Governor Wayne D. Angell, a leading hawk, before the May 18 meeting. Angell's concerns were echoed by Vice Chairman David W. Mullins Jr.

Angell has been lobbying Fed colleagues to send the markets an anti-inflation signal by nudging up the federal funds rate, which banks charge each other on overnight loans. Since last year, the Fed has held the rate close to 3%—not about the inflation rate. But as price increases accelerate, Angell argues, federal funds should tighten—and insiders say he has been gaining support. If he and other hawks prevail, tightening would begin almost immediately.

It's not yet clear, though, whether the April inflation spurt is a false alarm set off by a rough winter and a big jump in food prices—or a lasting trend. Without a definite answer, it's dangerous for the Fed to tighten too much, too swiftly.

Before the April price figures came out, Greenspan said he did not see any signs of mounting inflationary pressures. And the Administration has been caught off guard by the prospect of tightening. Before the April numbers, "I hadn't heard one word here about monetary policy," admits a Treasury Dept. official.

Insiders say that for now, the Fed is likely to compromise by issuing an agreement known as an "asymmetrical directive." These instructions to Fed managers would give Greenspan time to determine if the inflation numbers are real—and the authority to nudge up rates without waiting for the next scheduled FOMC meeting on July 6. "We're seeing a turning point in Fed policy from a neutral stance to a bias toward restraint," notes a worried Administration official. "It marks a significant change."

CLOSED WALLETS. For Clinton, the change is definitely for the worse. Many economists argue that there is no basis for inflation jitters. Economies worldwide are weak, labor costs are rising slowly, unemployment is high, and consumers remain wary. "Companies are not able to make price increases stick, and there's a worldwide paucity of demand," says Robert E. Rubin, director of the National Economic Council. "It's hard to see any signs of inflation."

But the warnings are out there. Steelmakers have raised prices 10% to 20% this year, thanks to import barriers and tight supplies. And the dollar's fall vs. the yen has forced Japanese auto mak-

ers to raise prices. The Big Three have followed suit, albeit more slowly. There's always the possibility, too, that the economy is stronger than official statistics have suggested. A bit of evidence: the Fed's recent upward revision of factory-capacity utilization by 1.5 points, to 81.4%.

Doves argue that an increase in rates now could further shake business' faltering faith that the recovery is sustainable. Corporations, already nervous about higher taxes and the Administration's health-care reform plans, might pull back on investment. Furthermore, higher U.S. rates could frustrate moves by Germany and Japan to stimulate their economies—at Washington's urging. "For the Fed to tighten now, when you have global slow growth, would be an inconceivable error of policy," contends Allen Sinai, chief economist for the Boston Co. Economic Advisors.

With more than three years remaining in his term, Greenspan doesn't want war with Clinton. But the Fed chief also has made it clear that he's not about to throw away five years of hard work nudging inflation down. Should another month or two of data show price increases continuing at a 4% pace, he'll probably tighten the screws—and he has the clout to bring the board around to his way of thinking. That could mean it will be long time before Greenspan gets to sit next to Hillary again.

By Owen Ullmann, with Mike McNamee, in Washington, and bureau reports



THE FENCE-SITTERS



LAWARE



LINDSEY

Let's wait for new evidence before deciding which way to go

ADHERENTS:

Alan Greenspan, Fed chairman
John P. LaWare, Fed governor
Lawrence B. Lindsey, Fed governor

THE DOVES



PHILLIPS



BOEHNE

There's no real evidence that inflation is surging, and even a small tightening now could harm the economy

ADHERENTS:

Susan M. Phillips, Fed governor
E. Gerald Corrigan, New York Fed
Edward G. Boehne, Philadelphia Fed
Silas Keehn, Chicago Fed
Gary H. Stern, Minneapolis Fed



**NISSAN
PATHFINDER:
NO 25% TARIFF**

MORE HELP WANTED FROM UNCLE SAM

TARIFFS A federal trade-court judge took a test drive in a Nissan Pathfinder and promptly shot down its 25% tariffs. That means Detroit probably won't win the higher tariffs on imported minivans.

DUMPING With White House support lukewarm, the Big Three pulled back from filing a dumping case against seven Japanese car exporters.

DUTY-FREE ZONES Over Detroit's opposition, the Commerce Dept. granted an expanded Nissan plant special foreign-trade-zone status. Toyota may get a similar deal.

DATA: BUSINESS WEEK

TREAD MARKS ON DETROIT

Setbacks in its trade battle point up the danger of relying on government

Candidate Bill Clinton knew how to get smiles from Detroit's Big Three auto makers: pledge to restore a 25% truck tariff on Japanese minivans and all-terrain vehicles. The grins widened when President Clinton acted as if he were going to follow through on his promise by blasting the current low tariffs as "a \$300 million-a-year freebie" handed to Japan by George Bush.

Suddenly, though, the euphoria is over. On May 14, a federal court in New York shot down 25% duties on Nissan Motor Co.'s two-door Pathfinder sport-utility vehicles. Judge Jane A. Restani of the U.S. Court of International Trade ruled that while the vehicle shared some engineering characteristics with trucks, the Pathfinder's design "virtually shouts to the consumer, 'I am a car, not a truck.'" This reasoning, concedes one key U.S. government official, "makes it very difficult" for the Treasury Dept. to press tariffs on four-door sport-utility vehicles, much less passenger minivans.

JUGGERNAUT. The decision is a blow for Detroit—and not just because it denies U.S. carmakers the price edge they had sought. More ominously, the ruling demonstrates the riskiness of carmakers' strategy of relying on government help to halt the Japanese export juggernaut.

The Nissan ruling is the latest in a series of lobbying setbacks for Detroit. Last February, negative press and weak White House support forced the Big Three to drop plans to file a major anti-dumping case against seven Japanese car exporters. Critics charged that such

a move would have been a blatant appeal for protectionism. Detroit was also dismayed with a Feb. 19 Commerce Dept. decision to grant Nissan special foreign-trade-zone status for an expansion of its giant Smyrna (Tenn.) facility.

The Big Three had complained that the zone enabled Nissan to import parts duty-free to Smyrna. That will make the plant even more competitive with rival U.S. auto facilities. The decision also makes it much less likely that Chrysler, Ford, and GM will challenge Toyota's pending request for foreign-trade-zone status for its U.S. plant expansion.

American carmakers aren't about to give up seeking government help, though. Industry lobbyists have been closely involved in fashioning the sweeping new Japan policy soon to be unveiled by a White House interagency task force. The new policy is almost certain to set numerical targets for increasing the paltry 16,000 units per year exported to Japan by the Big Three. And at the behest of Detroit, Commerce Secretary Ronald H. Brown and U.S. Trade Representative Mickey Kantor plan to step up their campaign to get the Japanese to purchase more U.S. parts. Detroit, says

Detroit is seeking aid in a sector where it is already king. Led by Chrysler, the U.S. has 90% of minivan sales

David E. Cole of the University of Michigan, aims to "keep the heat on."

Industry insiders say Detroit is already beating a path to Capitol Hill to overturn the Nissan decision. Officially, Ford, Chrysler, and GM are downplaying the ruling in the five-year-old dispute as a sideshow in U.S.-Japan trade relations. "This would be old news if the President hadn't raised it recently," says Stephen Collins, director of international economics for the American Automobile Manufacturers Assn. "We have much broader goals now." But industry sources say the companies still hope to have the tariff imposed legislatively. Such an effort passed the House but failed narrowly in the Senate last year.

SOLIDARITY. It's not clear where the Administration would stand on such a bid. While the President continues to bludgehorn on trade, his advisers are sharply divided over the minivan issue. Even trade hard-liner Laura D'Andrea Tyson, who chairs the Council of Economic Advisers, has sided with Treasury Secretary Lloyd M. Bentsen in opposing higher fees on foreign minivans. They have argued that raising tariffs without formal charges of trade violations amounts to protectionism, pure and simple. But Mickey Kantor, who served as Clinton's campaign chairman and remembers his promises, supports the move as a show of solidarity with the auto industry.

Ironically, Detroit is seeking aid in a market where it is king. Led by Chrysler Corp., the U.S. dominates the minivan sector with 90% of sales. And the strong yen will make it difficult for Japan to drop prices to expand market share. If it cares to, Detroit can learn several lessons from the Nissan case. One is that the government isn't a dependable ally. Another is that the auto industry doesn't always need Uncle Sam's help to compete successfully.

By Douglas Harbrecht in Washington
with James B. Treece in Detroit

A TRUST FUND THAT WILL HAVE NO FUNDS AND INSPIRE NO TRUST

When he was the outspoken chairman of the House Budget Committee, Budget Director Leon E. Panetta had a no-nonsense philosophy: If you're serious about cutting the budget deficit, raise taxes, slash spending, or do both. Elaborate deficit-cutting mechanisms of the type favored by former budget chief Richard G. Darman or Senator Phil Gramm (R-Tex.) don't work because they're either laced with loopholes or because Congress inevitably alters them to alleviate the pain to voters.

At his confirmation hearing last January, Panetta stuck to his theme: "There is not a mechanism you can put in place, there is not a procedure you can put in place, there is not a constitutional amendment you can put in place that replaces leadership that the President has to provide."

Alas, Washington is not a place where such views can long endure. So there was President Clinton on May 12, telling business executives he planned to create "a legally separate deficit-reduction trust fund, which will tell you where your taxes are going." In reality,

of course, the trust fund will have no funds and inspire no trust—because it's just the kind of accounting trick Panetta vowed to avoid. "Having a trust fund to put taxes into doesn't cut the deficit any more than if you didn't have the trust fund," notes Price Waterhouse analyst Stanley E. Collender.

MUSICAL CHAIRS. To make matters worse, there's more gimmickry to come. The Administration is drawing on legislative "enforcement mechanisms" to accompany the trust fund and replace ineffective budgetary machinery from the past. Among the proposals: new caps on discretionary spending. If Congress exceeded the limits, other programs would automati-

cally be trimmed. Another provision would require that any new spending be offset with cuts or new revenue.

But Congress and the Administration could still evade this requirement by declaring an "emergency" and passing supplemental spending bills. In fact, in its first four months in office, the Clinton Administration has already sought more than \$19 billion in supplemental spending to pay for wastewater

(D-Tex.), are pushing the White House to accept ceilings on entitlement spending. Their idea sounds reasonable: Why not just set a lid on, say, farm price supports? If a bumper crop drove down prices and pushed farm spending above the limit, all other entitlement programs could be trimmed to meet the cap. But here's the rub: The farmers' windfall would be paid for by children forgoing school lunches, the disabled losing home-care services, and veterans receiving less health care. Congress will never let such draconian measures take effect.

WHO DECIDES? The genesis of Washington's current obsession with arcane budget rules is political. As the president met with Senate Majority Leader George J. Mitchell (D-Me.) and members of the congressional tax-writing committees, all had the same complaint: "Our constituents are willing to sacrifice, but they don't trust us not to spend their tax increase." Meanwhile, Representative Charles E. Schumer (D-N.Y.) and Senator Bill Bradley (D-N.J.) pushed their similar trust-fund ideas. Says one White House official: "There was a

feeling that this would help us get back some of the [lost] momentum on the economic plan."

The President says he will meet weekly with CEOs to buttress his sagging popularity. The assembled execs should suggest that he come up with more than budgetary smoke and mirrors. As it is, Bill Clinton hasn't been much more willing than George Bush or Ronald Reagan to make the painful spending cuts that genuine deficit-reduction requires. Without such commitment at the top, gimmicks are all Americans can expect.

Paul Magnusson covers economic policy for BUSINESS WEEK from Washington.



PRESIDENT CLINTON IN SOUTH CENTRAL LOS ANGELES

"Having a trust fund to put taxes into doesn't cut the deficit any more than if you didn't have the trust fund," notes a Price Waterhouse analyst

cleanup, summer jobs, small-business loans, veterans' benefits, college student loans, highway construction, the Somali relief effort, U.N. peacekeeping efforts, the FBI, national parks, and a dozen or so other programs.

So far, Congress has balked at this profligacy. But the Administration hasn't even waited for an emergency to bust the fiscal 1994 caps. In its February budget proposal, the White House exceeds existing limits by \$18.9 billion over the next two years. The message to Congress: You find the cuts to stay within the caps.

Congress can play this game, too, and conservative Democrats, led by Representative Charles W. Stenholm



TCI'S JOHN MALONE DOESN'T WANT TO GIVE UP HIS ROLE AS CABLE'S LEADING VISIONARY

ANOTHER CABLE-TV MEGADEAL COULD BE COMING RIGHT UP

Time Warner-U.S. West may lead to Tele-Communications-AT&T

Amid a flood of publicity, Tele-Communications Inc. announced late last year that it would spend billions to rebuild its cable television system with fiber-optic lines and digital converter boxes. TCI painted a striking vision of the TV future: 500 or more channels, thousands of movies on demand, and interactive shopping. Indeed, the largest cable operator seemed to be leading the rush to build an "information superhighway."

But TCI has suddenly been trumped. Time Warner Inc.'s \$2.5 billion deal with U.S. West Inc. to build a similarly advanced cable system, announced on May 17, could outclass TCI's effort. The deal gives Time Warner, the nation's second-largest cable operator, cash to pay down its steep debt, as well as telephone knowhow crucial to its plan to provide both entertainment and phone service. U.S. West, which plans to upgrade its 14-state phone system to offer interactive video as well, presumably will gain access to Time Warner's rich library of movies and TV shows. Ultimately, Time Warner's and U.S. West's systems, if combined, would tower over TCI's.

All this must not sit well with John C. Malone, TCI's hard-charging chief executive who has relished his role as

the cable industry's leading visionary. Now, as the industry awaits his next move, Malone isn't talking. But his most likely response will be a megadeal of his own. The most likely partner: American Telephone & Telegraph Co.

Rumors have circulated for months that the companies, which already cooperate in an experimental video-on-demand system (table), are talking about a broader alliance. Now, a TCI spokesman acknowledges the two giants have held discussions—though he won't say what a deal could entail. AT&T won't comment.

The alliance makes sense enough on its own merits. TCI would obtain the telephone-based switching technology it needs to provide true viewer-controlled

TV, wherein a show can be sent to just one home. That technology also could allow TCI to provide local phone service to its 10 million customers. And hooking up with AT&T allows TCI to avoid the prohibition against a local phone company owning cable service in its area. For AT&T, a TCI deal could ease a costly dilemma since its breakup: how to send long-distance calls to customers. AT&T now pays local phone companies about \$14 billion a year in access charges. These calls instead could be sent via TCI. **LION'S SHARE?** But this deal may involve about more than just two companies. An executive familiar with the talks says TCI is examining an investment in MGM-UA Communications Co., the troubled movie studio owned by the French bank Crédit Lyonnais. If a TCI-AT&T venture pans out, AT&T could take a stake in MGM-UA as well, the executive says. "We know all about MGM, we know about their business predicament," says a TCI spokesman, who declines to comment further. The bank says officially that MGM-UA is not for sale, but it has hired Hollywood agent Michael Ovitz, presumably to find buyers.

MGM-UA is the source of programming that would neatly round out a TCI-AT&T partnership. TCI could get new movie for pay-per-view services. AT&T could use the movie studio's output to feed its own information superhighway aspirations. And since AT&T is expected to announce shortly an alliance with a video-game maker, rights to MGM-UA movie characters that can be used in games look attractive. That sort of synergy is a critical asset of the U.S. West-Time Warner venture, and an element neither TCI nor AT&T brings to the party.

A three-way deal likely would produce anguished cries from rivals that AT&T was trying to recreate the Bell System. AT&T's agreement last year to buy one-third of McCaw Cellular Communications Inc. prompted similar criticism. But AT&T isn't barred from returning to local phone service, so long as it doesn't buy the Baby Bells.

Those Baby Bells, in any case, may well find partners of their own. U.S. West and Time Warner shattered whatever reluctance that cable and phone companies—longtime rivals—have had to do deals. And if AT&T and TCI link up, the digital future could arrive in the nation's living room sooner than anyone thought possible.

By Bart Ziegler in New York and Ronald Grover in Los Angeles

TCI ISN'T GOING IT ALONE

Partner	Joint venture
NEWS CORP.	New cable entertainment channel, programmed by News' Fox unit, seeking 40 million subscribers
CAROLCO	\$90 million investment gives TCI access to first-run movies for pay-per-view services
AT&T AND U.S. WEST	Trial near Denver offers consumers a choice of movies on demand
TELEPORT COMMUNICATIONS GROUP	Connecting big companies directly to long-distance phone companies
U.S. WEST	Cable TV/phone systems in Europe
MCCAW CELLULAR	Trials of wireless phone service via cable TV

DATA: BUSINESS WEEK

AN A SECOND ANCHOR STEADY THE CBS EVENING NEWS?

ing could add pizzazz—but the network format may be worn out

Forgive Dan Rather if he seemed a bit rattled in announcing that Connie Chung would soon join him as anchor of the *CBS Evening News*. He hasn't shared the spotlight since succeeding Walter Cronkite in 1981. Although Rather says he supports the arrangement, set to begin on June 1, he added his reference to it on the May 17 broadcast. Recovering with a smile, Rather sounded an upbeat note: "We think it will strengthen a broadcast we're already very proud of."

Rather says Chung's appointment is a bid attempt to propel the *Evening News* ahead of its rivals. But behind the brave words is a startling admission: CBS has concluded that it can't win the competition using the single-anchor format. With Rather alone at the helm, the *Evening News* has become a generic presentation that varies little from its counterparts at ABC and NBC. CBS is tacitly admitting that short of making radical changes, it doesn't know how to catch ABC's Peter Jennings, who has held an unshakable lead in the audience ratings since 1989 (part). "The sameness of the three broadcasts may make viewers feel less compelled to make new choices," says Edward Stringer, president of the Broadcast Group.

DECLINING FORCE. The blurring of the news programs coincided with a decline in their importance. With the national newscasts increasingly eclipsed by CNN and the local news, prime-time news magazines such as *60 Minutes* and *20/20* have become the centerpieces of the networks' news operations. Before offering a co-anchor job to Chung, in fact, CBS News President Eric Ober says he sounded out veteran *60 Minutes* correspondent Ed Bradley. But Bradley opted to stay put.

Indeed, Rather favors the new arrangement because it frees him up to focus on his new magazine show, *48 Hours*. He also wants to do more field reporting for the

Evening News. And Chung, who was lured back from NBC in 1989 to do a magazine show, will divide her time between the news and a new prime-time magazine, *Eye to Eye with Connie Chung*. "The news shows are a declining force," says Lawrence K. Grossman, former president of NBC News, "so you put your stars where they give you the biggest bang for your buck."

CBS will air an unprecedented four news magazines next season. And network executives say they will generate a rough total of \$100 million in revenue, almost as much as the *Evening News*. Without these shows, the news division would lose money. CBS's rivals are mak-

ing similar commitments. To rescue its battered news division, NBC hired as its president Andrew Lack, a producer who worked most recently on the CBS news magazine *Street Stories*.

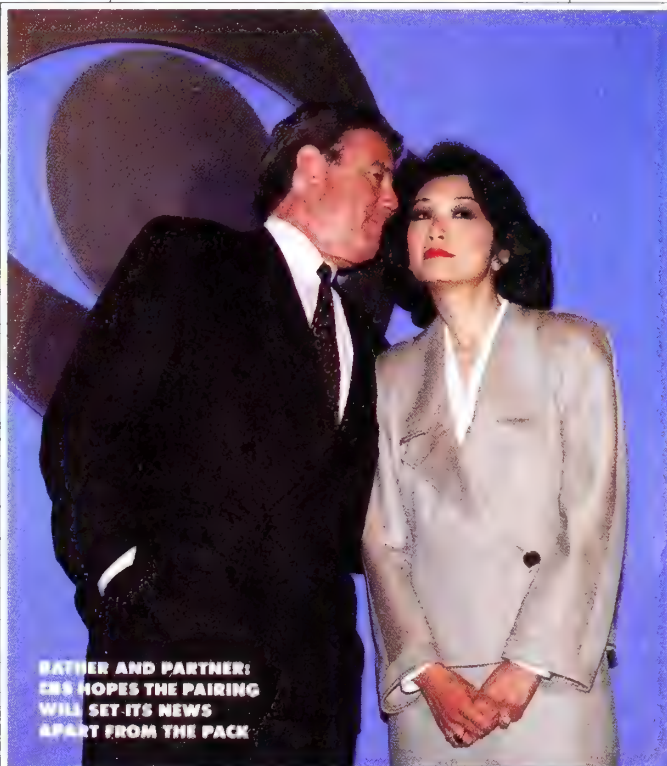
As they lose audience and influence, the network news shows have also lost some control over their own ratings. The ratings for *World News Tonight*, for example, are bolstered because many ABC affiliates air the *Oprah Winfrey Show* before the local news. Some of those viewers stick around to catch Jennings. While *World News Tonight* does best among younger and more urban viewers, rural and older viewers prefer the *Evening News*. Much of this, though, is because ABC's prime-time audience is younger than that of CBS.

"NEVER BE SECOND." Part of CBS's decline, too, is simply a function of Rather's personality. The 31-year CBS veteran still provides gutsy coverage of big stories such as the recent siege of the Branch Davidian compound in Waco, Tex. But viewers seem to prefer Jennings' silken style to Rather's this-just-in tone. Indeed, in the just-concluded 1992-93 TV season, Rather actually slipped further behind *World News Tonight*. Chung may make the show more appealing to female and younger viewers, says Betsy Frank, director of TV information at Saatchi & Saatchi Advertising. CBS affiliates, who have agitated for such a change for several years, are also applauding.

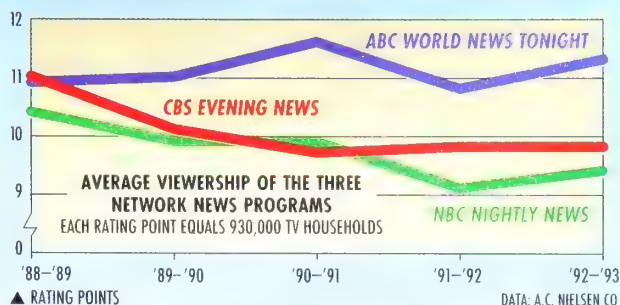
CBS's move will put pressure on third-place *NBC Nightly News*. Industry executives say the network has considered pairing Brokaw with Katherine Couric, co-host of NBC's resurgent morning show, *Today*. But some rivals say NBC now risks looking like a copycat: "The rule in network news is: Never be the second to do something," says Tom Bettag, executive producer of ABC's *Nightline*.

Not that CBS is the first to try dual anchors. Chet Huntley and David Brinkley pioneered the form on NBC in the 1960s. And Barbara Walters became a celebrity when ABC paired her with Harry Reasoner in 1976. ABC quickly broke up that team after Walters and Reasoner fought like spouses in an Edward Albee play. If Chung's move seems quieter, maybe it's because the buzz in broadcast news has moved elsewhere.

By Mark Landler in New York



DAN'S DESCENT



POLLUTION



TO FEND OFF A PUBLIC OUTCRY, MONSANTO HAS CUT TOXIC AIR EMISSIONS BY 90% SINCE 1987

AN EMBARRASSMENT OF CLEAN AIR

Publicizing the names of polluters is working better than tough laws

Federal laws controlling pollution can be excruciatingly detailed. Regulations not only limit the quantity of chemicals that companies can spew out but also dictate the methods they must use to curtail pollution. When it comes to cutting output of the most dangerous chemicals, though, the government has found a far more effective weapon than the law: embarrassment.

In 1986, Congress amended the Superfund law to require manufacturers to make public an inventory of chemicals they stock and to report the quantities of some 300 toxic chemicals that they release each year. On May 25, when the Environmental Protection Agency plans to release five years of data on the approach, it will show that the toxic releases of U.S. manufacturers are falling. What's more, chemical makers, which pump out the largest share of these poisons, cut their emissions by 35% between 1987 and 1991. "Companies just want to get off the lists of top polluters," says one industry official.

RED FACES. Indeed, the Clinton Administration now sees such pollution-prevention efforts as the wave of the future. "We must move away from end-of-the-pipe regulation," said Carol M. Browner, the EPA adminis-

trator. "We're going to have to focus on preventing pollution."

On May 18, Browner announced a policy shift intended to discourage the production of hazardous waste: She slapped an 18-month moratorium on increasing capacity for toxic-waste incinerators, pending an overhaul of regulations. She is also considering expanding the toxic-release program to include industries such as utilities, mines, and large recyclers, and to raise the number of chemicals covered beyond the current 300. To set an example, President Clinton promised in April that federal agencies would also report their toxic releases—and try to cut them 50% by 1999.

The government is betting that most companies will have the same reaction to

emissions disclosure as St. Louis' Monsanto Co. did when it was forced to reveal its 1987 emissions for the first time. "We knew the numbers were high, and we knew the public wasn't going to like it," says Vice-Chairman Nicolas L. Reising. To fend off an outcry, Monsanto volunteered to slash its worldwide toxic air pollutants 90%. Since then, the chemical maker has spent \$120 million on 25 projects, from installing new pollution control gear to recycling toxic materials. It has cut its worldwide annual toxic releases by nearly 55 million pounds. And it expects 1992 data, once compiled, to show it made its 90% goal.

HEFTY REPORTS. Many companies prefer voluntary efforts to legal mandates, saying this gives them latitude to spend their pollution-control money more effectively. Often, they find that preventing pollution costs less than cleaning it up. Pioneers such as 3M, Dow Chemical, and American Telephone & Telegraph have found that many such investments pay for themselves in reduced costs.

But that doesn't mean business would take kindly to an expansion of emissions reporting. Complying won't be cheap. According to the EPA, manufacturers already spend \$346 million a year just to tote up and report their releases—before they invest a dollar to cut pollution.

Environmentalists aren't entirely thrilled with regulation-by-embarrassment, either. They complain that changes in reporting requirements make drops in releases seem larger than they are. For instance, a Kennecott-Utah Copper plant was ranked as the nation's fourth-largest polluter in 1987 because reported mining emissions, which it was not required to do. When it stopped including those releases, its numbers improved dramatically. Overall, the EPA says, about half of the reported improvement is from such changes.

Even so, the real declines in emissions are so large that the EPA considers the program a resounding success. "We could never have gotten here so fast with regulation," says David J. Sarokin,

the EPA's Office of Pollution Prevention & Toxics. Indeed, more than 1,000 companies have signed up for a program under which manufacturers promise to cut emissions of 17 high-priority chemicals 33% by 1992 and 50% by 1995. Sarokin says more than 200 have already met the 1995 goals. When it comes to cutting pollution, generating goodwill—and avoiding negative publicity—can be powerful motivators.

By Mary Beth Regan
Washington

A REPORT CARD ON 1987'S BIG POLLUTERS

	MILLIONS OF POUNDS OF POLLUTANTS RELEASED	
	1987	1991
• AMERICAN CYANAMID WESTWEGO, IA.	213.4	142.0
• SHELL OIL NORCO, LA.	194.2	2.6
• MONSANTO ALVIN, TEX.	175.6	54.8
• KENNECOTT-UTAH COPPER BINGHAM CANYON, UTAH	158.7	16.3*

* COMPANY CHANGED THE WAY IT REPORTED RELEASE OF CERTAIN CHEMICALS DATA ENVIRONMENTAL PROTECTION AGENCY, BUSINESS WEEK

It drives

When you oversee the most technologically advanced race in the world, the engine is running long before the race starts. Massive amounts of data need to be collected. Everything from entry fees, qualifying times and

speeds to engine serial numbers and driver and crew information. Then all the data collected dur-

that

ing the race needs to be compiled so the results can be validated.

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the

PCs

drive

the

Indy 500.



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MICROCHIP STARDOM IS WITHIN ARM'S REACH

The Brit startup has a dazzling array of customers and backers

Past the potato fields east of Cambridge, England, just around the bend from the Black Horse pub in Swaffham Bulbeck, the headquarters of Advanced RISC Machines Ltd. is abuzz. The converted 18th-century barn is an unlikely place from which to take on Intel, Motorola, and AT&T in the bruising microprocessor wars. But ARM Managing Director Robin Saxby figures he has an edge: "big, powerful friends."

Saxby seems to collect powerful partners. First, Apple Computer Inc. chose the ARM 610 processor as the brain behind its handheld Newton personal communicator, due out later this year. Then startup 3DO, backed by Matsushita Electric Industrial and AT&T, designed the chip into its upcoming home multimedia machine. In March, Sharp Corp. signed on to make ARM's chip. And ARM expects to announce on May 24 that Texas Instruments Inc. will make and sell the chip for use in autos, cellular phones, and other gear.

All that makes 3-year-old ARM a potential powerhouse. If all the deals pan out, says Michael Slater, the editor of *Microprocessor Report*, a newsletter, tens of millions of ARM chips could be sold annually by the end of the decade. That would give ARM production volumes on a par with such big sellers as Motorola Inc.'s 68000 processor family or Intel Corp.'s superstar 486. "ARM is the new darling of the industry," says Robert J. Conrad, head of TI's U.S. microcontroller business.

CATBIRD SEAT. Behind the ground swell of support is a smart trade-off. In designing its chip, ARM accepted a modest sacrifice in speed in exchange for much lower cost and power consumption. The version that Apple's Newton will use, for instance, runs at roughly the same speed as Intel's 486, but it takes up one-fourth the space and consumes one-eighth the power. And at less than \$30, the ARM chip sells at one-tenth the price.

True, the ARM 610 has less than half the speed of other reduced instruction-

set computing (RISC) chips from Sun Microsystems, IBM, and MIPS Technologies. "It's a toy," sniffs James H. Clark, chairman of Silicon Graphics Inc., which owns MIPS. But the ARM microprocessor's unique blend of features puts it in the catbird seat to control a new wave of electronic gadgets (table) that require low cost and power consumption.

Take 3DO Co., the San Mateo (Calif.) startup. It doesn't need the fastest chip to run its multimedia machine, which plugs into TVs, because the machine has its own special graphics processors to

ARM'S EDGE

PERSONAL COMMUNICATORS Apple's handheld Newton will use ARM chips for recognizing handwriting, faxing, and running electronic messaging and information programs

AUTOS Texas Instruments will use the ARM technology to combine braking, suspension, and traction controls on a single chip

MULTIMEDIA 3DO, the AT&T/Matsushita-backed startup, will use the ARM chip to power its new multimedia player, which plugs into a TV

SECURE PHONES The ARM chip will be at the heart of new telephones that prevent bugging and topping by encrypting conversations and data transmissions

DATA: COMPANY REPORTS

help out. "ARM provides the most bang for the buck," says Richard B. Tompaine, technology vice-president at 3DO. That's quite an endorsement, considering that one of 3DO's parents, American Telephone & Telegraph Co., is pushing a rival chip, called Hobbit, into some of the same markets (page 81).

AT&T's Hobbit nearly got a jump on ARM. In 1988, Apple paid AT&T an estimated \$6 million to design a Hobbit fore-runner for its Newton. But when Lawrence G. Tesler, now Apple's chief scientist, took over the Newton project in 1990, he switched to ARM. The ARM chip already boasted five years of use in school computers made by a British unit of Italy's Olivetti, Acorn Computers Ltd.

"It was far and away above" other processors, says Tesler, who coaxed Apple into making ARM independent in 1990. Apple put up \$3 million for a 43% stake alongside Acorn and chipmaker VLSI Technology Inc., and hired Saxby, 46, former Motorola executive in Europe.

ASIAN ALLY. ARM's lead in its niche has shrunk to perhaps a year. In addition to AT&T, giants Intel and Hitachi Ltd. are being lured by the potentially lucrative market for low-power 32-bit chips, which is expected to hit \$1 billion or more in 1996. And on May 17, Motorola jumped into the fray with the first in a series of chips targeted at similar jobs. "ARM has the right product today," says Clark Gay, a Motorola microprocessor marketing manager. "But we're chasing all the same sockets."

Saxby is hoping more powerful friends can help keep ARM ahead. In March, he signed on Daiwa Securities Co.'s venture-capital fund, Japan's s-



SAXBY LEAVES MANUFACTURING AND MARKETING TO LICENSEES

ond largest, as an investor and ally help push the chip to Asian clients. And while his lean staff of 30 engineers designs new generations, Saxby leaves the high costs of manufacturing and marketing to licensees, such as Sharp and Intel, while collaborating with each to tailor ARM chips for specific markets.

Will ARM make the big time? Saxby knows that hitching its future to outsiders carries big risks. Demands on ARM's thin development resources from multiple partners could spin out of control. But if Saxby can pull it off, he could change a tiny English hamlet's mainstay from potatoes to chips.

By Jonathan B. Levine in Swaffham Bulbeck, with bureau reports



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SPELLING IT OUT FOR BUILDERS

Insurers send a message: Meet construction standards or else

After Mrs. O'Leary's cow tipped over a lantern in 1871, setting the great Chicago fire, insurers developed the National Building Code. The building standards were supposed to prevent a repeat of their \$168 million payout—at the time, the biggest insurance loss ever. But last winter, Hurricane Andrew reminded underwriters of a lesson they had forgotten: Poorly constructed buildings will cost them mightily—in this case, as much as 25% of the \$16 billion paid in claims.

Burned twice in 121 years, insurers vow it won't happen again. Spurred by a 1992 industry study citing poor compliance and enforcement of building codes, they've started a sweeping nationwide



INSPECTING A CONSTRUCTION SITE IN HILLSBOROUGH COUNTY, FLA.

exam of the standards—a massive undertaking requiring thousands of reviews through 1997. Inspectors began this month with evaluations in California, Texas, Florida, and Illinois. New York City, among other areas, will follow later this year.

The result could be dramatic swings in home-policy premiums. If insurers uncover poor enforcement in a community, rates for local homeowners could jump

ing the exams. "How? By making harder to insure poorly built homes."

On the books of virtually every U. town, city, or county, building codes are meant to ensure that homes and commercial buildings withstand natural disasters and fire damage. But enforcement has been spotty since insurers gave up control of the rules in 1981, relying instead on independent consultants to update specifications and

as much as 20. Some companies hold that, in certain areas, they may still be writing coverage together. That, they hope, will encourage consumers to pressure local governments and builders to shape up. "We really have to put some pressure on the builders," says Dennis C. Flesner, a vice president at State Farm Fire & Casualty Co., who is directed

SCROOGE McDISNEY?

To Chick Bernabe, the name "Disney" was gold. He visited Walt Disney World several times a year. And Disney's reputation was a big factor in his decision to buy a condominium six years ago in Country Walk, a development south of Miami built by Arvida Corp., then owned by Walt Disney Co.

Bernabe has changed his tune. Nine months after Hurricane Andrew swept through Dade County, destroying most homes in the 1,300-unit development, Disney is the object of several suits charging that sloppy construction is partly to blame for the storm's destruction.

With the suits has arrived publicity of the sort Disney's careful image makers studiously avoid. Country Walk homeowners picketed a "Disney on Ice" show in downtown Miami in early May. A 10-minute video detailing the owners' plight was sent to Disney Chairman Michael D. Eisner via H. Wayne Huizenga, chairman of Blockbuster Entertainment Corp. And M. Anthony Burns,

chairman of Ryder Corp., and James K. Batten, chairman of Knight-Ridder Corp., both headquartered in Miami, wrote Eisner on behalf of the condo.

Disney's mess stems from its 1984 acquisition of Arvida. It sold the unit's assets in 1987 to JMB Realty Corp. But Disney retained some liability, which became crucial after Andrew hit. Homeowners contend the damage would have been lighter if not for widespread construction defects—at least some of which they say were Disney's fault. Construction flaws at Country Walk were included in a survey of area damage by an engineering firm hired by Dade County, and Disney's own expert witness, an engineer, testified in a deposition that there were a "small percentage" of building-code

violations. Disney denies there were defects, blaming the destruction on the storm's "special intensity." "Deficiencies that may have been there were not the cause of this damage," says Disney attorney William Burd of Kenney, Burd, Knutson & Markowitz.

SHORTFALL. The condo association is seeking \$18 million to rebuild. Its insurer so far has paid only \$10.8 million, invoking a clause that shields it from liability for construction defects. JMB's Arvida/JMB subsidiary settled for \$2.7 million on Apr. 16. But Disney offered only \$2 million, shy the remaining \$8 million needed. Attorney Burd says, "there are still ongoing negotiations." The shortfall has frustrated rebuilding efforts and dismayed local civic leaders. "I'm surprised that a company with a reputation like Disney's would drag it out," says Armando Codina, a Miami developer and a member of We Will Rebuild, a group organized to aid hurricane recovery.

Disney also faces a class action by Country Walk's homeowners. And State Farm Fire & Casualty Co. is pursuing a \$75 million claim against Disney, citing poor construction to recover what it paid out in claims. Not the sort of business the Magic Kingdom has grown up on.

By Gail DeGeorge in Miami



BAD PUBLICITY: ANGRY CONDO RESIDENTS PROTEST IN MIAMI

al governments to enforce them. Now, billions of dollars in payouts later, the industry has discovered that any municipalities have been lax on safety construction, devoting more resources to health and public safety. Nowhere is the problem more evident than in Dade County, Fla., where a December 1992, grand jury report critical of compliance and enforcement of building codes recommended that insurers play a role in improving construction quality through code enforcement.

MAKING A LIST. Homebuilders are closely watching insurers' moves, including an attempt to compile national databases on construction companies' quality records. If a storm exposes poor construction by a builder in one area, insurers could quickly check the contractor's homes in other locales to prevent future losses.

Builders, angered by such new attention, say they're being blamed for damage caused by stronger-than-predicted storms. And they question whether the construction of existing homes can be expected. "It's a lot of Monday-morning quarterbacking and applying standards not applicable at the time these homes were built," says Ted R. Brown, general counsel for Arvida/JMB Partners, a Florida homebuilder.

Some homeowners side with the builders. Wendy Lyn, whose home in Dade County was damaged by Andrew, fears insurers will use code grading as a penalty for storm-prone areas. "I don't know the standards that should be used," she said. "Don't put the burden on me and have me pay higher premiums." State regulators say they want to ensure that owners of well-built homes in areas with poor enforcement will be able to escape higher premiums.

Despite the potential for big rate hikes, though, most local politicians and building-code departments welcome the push to improve regulation. "This is what we've been waiting for," says Jeffrey B. Stone, city manager for St. Petersburg Beach. "It's going to bring market discipline." Indeed, areas with sound codes could be rewarded with lower rates. In that way, the system should encourage better construction, which insurers hope will mean fewer claims—and in the end, lower premiums.

The alternative: more losses for homeowners and insurers alike. "If codes are not enforced, we will have more tragedies like Andrew," says Francis A. Mani, counsel of the National Committee on Property Insurance, the industry-funded group reviewing the building codes. And with the hurricane season starting June 1, that's history the insurance industry doesn't want to repeat.

By Chris Roush in New Haven and Gail George in Miami

BANKING

AN ALARM GOES OFF AT THE CASH MACHINE

A Connecticut scam drives home the vulnerability of bank-card users

It seems frighteningly easy: Wheel a fake automatic-teller machine into a shopping mall and program it to record customers' personal-identification numbers and account numbers when they try using the machine. Then slap together some fake bank cards using the purloined numbers and pillage the customers' accounts. A simple scam, but that's exactly what a group of thieves did a few weeks ago in Connecticut.

So far, bankers say the bandits have made off with a little more than \$50,000—small potatoes for a group of banks to absorb. But the ease with which the thieves pulled off the scam

count numbers on discarded receipts.

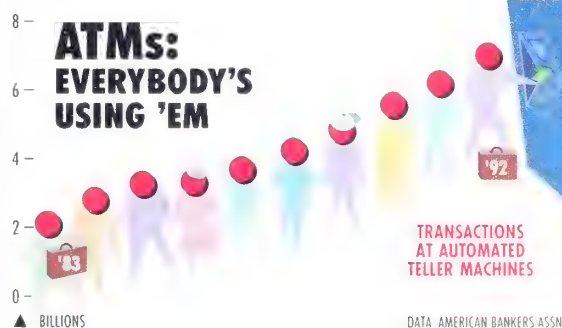
The Connecticut caper, however, shows that a new problem is developing: the easy availability of used ATMs. Just about anyone can buy one through a network of resellers, and they can cost as little as \$6,000. Other than the Connecticut heist, experts don't know of any U.S. thefts involving used ATMs. But some want ATMs to be registered to make it harder for thieves to get hold of them. "We all ought to be more vigilant," says Richard Yanak, president of Yankee 24, a Connecticut funds-transfer network.

Growing ATM fraud should be plenty upsetting to card users, since banks are often slow in reimbursing customers who get ripped off. Dr. Robert Laitin, a New York radiologist, found that out when he noticed that his monthly Citibank statement for August, 1990, included several ATM transactions for which he didn't have receipts. Laitin filed a written complaint, but it was more than a year before Citi credited his account for the fraudulent withdrawals and the interest he would have earned. A Citi spokeswoman says the bank does not discuss individual customers as a matter of policy and refused to comment.

RETINA SCANS? Banks and ATM makers, meanwhile, are searching for ways to make ATMs more secure. NCR, a big supplier of ATMs, is exploring using Smart Cards with imbedded microchips and silicon memory to make cards harder to copy. To make the cards foolproof, some companies also are looking into a system that would scan each customer's retina as a means of identification. But health concerns about mass use of a single eye cup have dampened enthusiasm for that technology. Electronic fingerprinting and voice recognition are other possibilities being considered.

High-tech solutions are expensive, and bankers may fear that changing ATM security will alarm customers unnecessarily. Still, for customers victimized by ATM scams, such as the one in Connecticut, setting off alarms now might be late—but worthwhile.

By Kelley Holland, with Paul M. Eng in New York



suggests that banks have a bigger problem on their hands than they want to acknowledge.

In the past decade, the number of ATMs in use has more than doubled, to 87,330, says the American Bankers Assn. Annual transactions, meanwhile, have more than tripled, to 7.2 billion (chart). Such volume and ubiquity make the cash dispensers increasingly tempting to thieves, putting the bank accounts of millions of customers at risk. "Fraud will continue to rise as the number of ATMs grows and people get more familiar with them," says H. Ray Ellis, a security expert at a major bank. Estimates of losses from ATM fraud vary. The American Bankers Assn. claims that losses are minimal. But Ellis, who has years of experience in the business, contends that big banks are at risk of losing millions of dollars apiece each year.

Bankers claim the vast majority of ATM fraud results from customers' carelessness. Many people write their PIN numbers on the backs of their cards, making them usable by anyone. Thieves also have used binoculars or video cameras to decipher customers' ID numbers. Then they match the PINs with ac-

EDITED BY JULIE TILSNER

(SEAT) BELT-TIGHTENING

More evidence that luxury isn't what it used to be: Although sales of all light vehicles in the U.S. are up 6.3% so far this year, sales of high-end cars are slumping. One big reason, according to analysts: The prospect of higher taxes has high-income consumers clutching their wallets.

	1993 unit sales*	Change from 1992*
CADILLAC	65,913	-9%
BMW	23,956	28
MERCEDES	17,770	-16
BUICK	16,777	-27
MITSUBISHI	12,183	31
OLDSMOBILE	7,685	-43
JAGUAR	3,572	27
PORSCHE	1,071	38
BIG THREE	172,199	-9
FOREIGN	200,243	2

*THROUGH APRIL

DATA: JACOBS AUTOMOTIVE

MICROSOFT KEEPS 'EM COMING

► The code name of yet another new, beyond-PC operating system from Microsoft (page 84) is Arador—a reference to J. R. R. Tolkien's *Lord of the Rings*. Arador aims to control the basic functions of a new generation of digital fax machines, telephones, laser printers, and copiers that will be equipped with microchips, memory, disk drives, and display screens. Microsoft plans to announce the new software on June 9 with a group of leading equipment makers, including some Japanese electronic giants.

STATIC BETWEEN MURDOCH AND THE FCC

► Will Rupert Murdoch's bid to buy the *New York Post* go up in smoke? The Federal Communications Commission

to Murdoch: Maybe. The media baron owns New York's WNYW-TV, so he needs the FCC to waive a rule that prevents one person from owning a TV station and a newspaper in the same market. Until recently, the waiver seemed a sure thing. But opposition is growing in New York political circles and on Capitol Hill. Murdoch says if he doesn't get an FCC ruling by June 1, he'll withdraw his bid. FCC Chairman James Quello, surprised by the criticism, isn't sure the FCC will meet Murdoch's deadline. "I wouldn't say it will be granted automatically at all," he says.

PUTTING A LID ON THE FRACAS AT ICN

► No more takeover talk—for now—about ICN Pharmaceuticals since a federal judge in New York issued a preliminary injunction on May 18 against stockbroker Rafi Khan. Khan was trying to replace ICN's board and its chairman, Milan Panic, who returned to ICN this spring after a stint as Prime Minister of Yugoslavia. The judge found that the broker had breached his fiduciary responsibility to the company by trying to oust management after acting as an underwriter for the public offering of one of its subsidiaries. The judge also said that Kahn had engaged in insider trading in ICN

'IS IT A NORTHEASTER OR THE JONES KID?'

It's nearly summer, and Super Soaker is back. Not everyone will be thrilled. Some cities considered banning the hyper-powered squirt gun last year, and the thing topped a dangerous-toy list after one youth was killed and two injured in shootings triggered by ill-advised super-dousings.

Call this a victory, sort of, for the free market. Water gun sales tripled in 1991, then doubled again last year despite the publicity. Market leader Larami Corp. sold 10 million Soakers last year, worth \$150 million, up from 3 million in 1991. And this summer? The battle may be rejoined, as dozens of cops pitch water guns of their own. Michigan State Senator Gilbert J. DiNello is keeping an eye on police reports, looking for a reason to revive his bill banning the toy in his state. Analysts say there's a more likely end to this phenomenon: market saturation.



shares for his own account and that he had willfully given false testimony. Kahn declined to comment.

PROFESSOR MILKEN?

► Michael Milken is back, and he wants to be liked. The former Drexel junk-bond titan, done with a two-year jail sentence for securities fraud, wants to spiff up his image, says a spokeswoman. It surely needs spiffing. That explains his first television interview, coming June 11, with Barbara Walters on ABC's *20/20*. He has been seen debating economic poli-

cy with visiting White House Scholars, and last week, Milken took to the podium at the University of California in Los Angeles to teach an MBA class for old friend David Murdoch, chairman of Deere Food. The subject of his lecture: creativity in business. Milken's spokeswoman says a full-time teaching job at UCLA could be in the work-

\$11 MILLION FOR AN OLD CALCULATOR

► Has the information processing revolution invaded the auction business? Sort of. On May 19, Christie's officials were stunned when a rare, early 19th century mechanical calculator fetched \$11.7 million in London, overwhelming its \$23,000-\$30,000 presale estimate. That's a distinct contrast from this spring's major art sales in New York. While Cézanne still life set a record at \$28.6 million, contemporary and Latin American art remain in the doldrums. The calculator, of gilt and quartered brass, was the first of its kind to appear on the market in 70 years. (Four similar pieces are in German museums.) The buyer: Swiss collector Edgar Mannheim.



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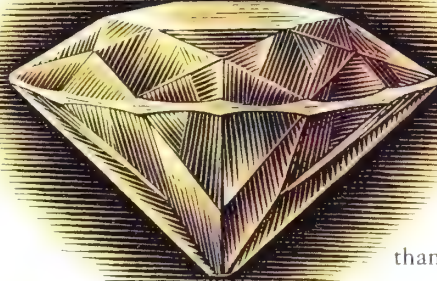
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CLINTON'S DRIFT LEFT ON CIVIL RIGHTS HAS BUSINESS EDGY

When President Bush caved in to pressure from civil rights groups and signed a 1991 law making it easier for women and minorities to win damages for job discrimination, employers were glum. But, they figured, all was not lost. A Republican Justice Dept. would no doubt fight for the narrowest interpretation, limiting companies' exposure to costly lawsuits.

Now the GOP is out of power, and business fears the worst. Although the Clinton Administration has so far made little civil rights policy, its selections for top jobs suggest it will aggressively enforce and perhaps expand anti-discrimination laws. "There's more than enough incentive for the private bar to bring cases" without new legislation, complains Stephen A. Bokor, general counsel for the U. S. Chamber of Commerce.

The most important and most controversial appointee is Lani Guinier, a University of Pennsylvania law professor tapped to head the Justice Dept.'s Civil Rights Div. Guinier's views on the Voting Rights Act have galvanized enough conservative opposition to set up a real fight in the Senate Judiciary Committee when her confirmation hearing is held, probably in June.

Guinier, 43, argues in her academic writings that minorities' power could be enhanced by "cumulative voting" in state and local elections. In such a system, if five city council members are to be elected, voters could cast five votes for one candidate, boosting chances of a minority victory. She would increase the legislative power of minorities by requiring supermajorities to pass laws. That would give great bargaining power to a cohesive minority because it could block passage the way southerners once used filibusters to thwart civil rights laws.

Conservatives say this amounts to affirmative action for electoral and legislative outcomes—and suggests she might back job and other quotas. "She represents the most radical

view of American government in recent memory," says Clifford Bolick of the conservative Institute for Justice.

Liberals insist the right just wants to get even for the defeat of Supreme Court nominee Robert H. Bork and other conservatives. "This is an attempt to tarnish the President by linking him to support for quotas," says Wade Henderson, the NAACP's Washington director.

Conservatives would be less upset if they only had to worry about Guinier. But Clinton has chosen Democratic interest group stalwarts for many key civil rights positions. These

include Norma V. Cantu of the Mexican American Legal Defense & Education Fund for the Education Dept., Dennis Hayashi of the Japanese American Citizens League for the Health & Human Services Dept., and Joseph Sellers of the Washington Lawyers' Committee for Civil Rights, who is expected to be named to head the Equal Employment Opportunity Commission.

CAP TROUBLE. Business lobbyists have largely remained on the sidelines of the fight over Guinier. But they do worry about civil rights policy. The Justice Dept. has reversed the Bush Administration's stance against applying the 1991 law to cases in progress when it was passed. The Supreme Court will hear two of these cases next fall



CONSERVATIVE TARGET: GUINIER

and companies fear that such retroactivity could expose them to millions of dollars in damages. Even worse, from business point of view, is Attorney General Janet Reno's endorsement of legislation that would remove the 1991 law's \$300,000 cap on damages for victims of on-the-job sex discrimination.

Bill Clinton has been courting business assiduously. But corporate leaders tend to be impressed more by policy action than Presidential sweet talk. And to a business community already worried by health-care-reform plans, the leftward drift of civil rights policy is one more cause for alarm.

By Catherine Yang in Washington

CAPITAL WRAPUP

TAXES

S smokers, beware—of Senator Bill Bradley (D-N.J.). The Clinton Administration's growing propensity to heed his advice could increase the chances for a whopping increase in the federal tobacco tax. Bradley, a key member of the Senate Finance Committee, has been influential in reshaping Clinton's tax proposals. His opposition helped to scuttle a proposed investment tax credit and halve a planned increase in the corporate tax rate. And the Treasury Dept.'s proposal for tax breaks in urban "empowerment zones" closely follows a model proposed by Bradley. Now the former

New York Knicks star is stepping up the pressure for a tax of at least \$1 per pack of cigarettes. "I'm tired of paying for your lifestyle choices," he tells smokers. "[We spend] \$50 billion taking care of you because you can't get your fingers off the nicotine." The main obstacle to the big tax increase: Southern Democratic senators with ties to the tobacco industry could hold the balance of power on close tax and health-care votes.

VIRGINIA

Things are looking brighter for Old Dominion Democrats, despite an ugly feud between retiring Governor L. Douglas Wilder and Senator Charles

S. Robb: Former Attorney General Mary Sue Terry, the state Democratic convention's consensus nominee for this fall's gubernatorial election, holds a commanding lead over three GOP contenders. In a recent Mason-Dixon Political/Media Research poll, former Representative George F. Allen, state legislator Clinton Miller, and businessman Earle C. Williams all trailed Terry by 29 percentage points or more. In the same poll, both Robb—who narrowly escaped indictment in a phone tapping scandal—and Wilder lead former Marine Colonel Oliver North in trial heats for next year's Senate election. Robb has an eight-point lead over Wilder in Democratic primary polling

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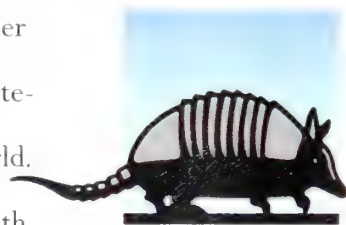
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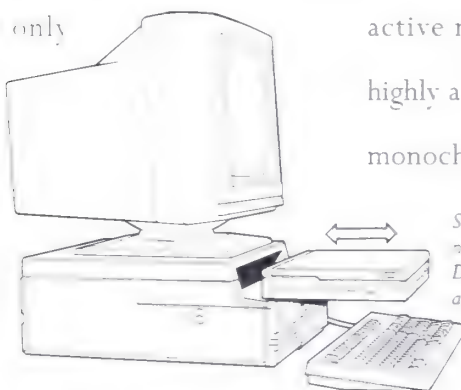
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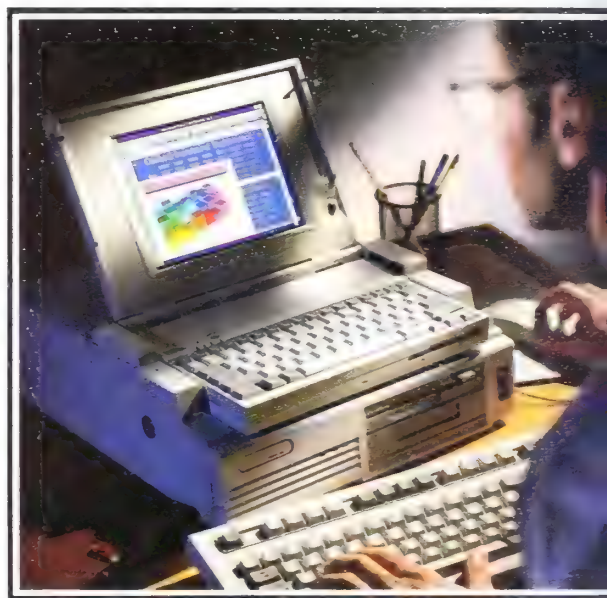
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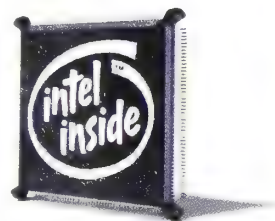
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GERMANY

GERMANY FIGHTS BACK

"THERE'S A REVOLUTION UNDER WAY"

You couldn't find a more contented spot than the rolling hills and vineyards around Schweinfurt, a placid town of 55,000 some 30 miles from the former East German border. And for factory workers at FAG Kugelfischer, the world's third-largest ball-bearing maker and the town's largest employer, life has always been good. Well-polished Mercedes sit in the driveways of tidy homes. Come annual vacation time, employees head for six weeks of sunbathing in Spain.

But in January, prosperity came to an end. Battered by Asian price-cutting and shocked by mounting losses in eastern Germany, executives told a stunned gathering of workers that half their factories would have to be sold or shuttered to keep the 110-year-old company alive. Since then, it has axed 2,700 employees. Thousands more now face a similar fate. "Everyone has to fear for their livelihood," says Susanne Kretzer, whose mother and both grandparents worked at Kugelfischer and who lost her own job in the first round of cuts. Kretzer's husband, a machinist, is terrified his job will go next. If it does, the Kretzers could lose their home.

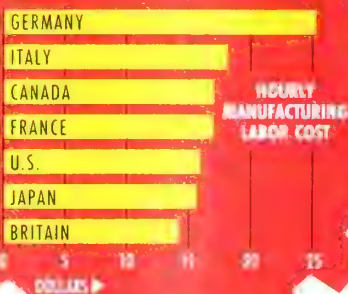
STUNNED. It wasn't supposed to happen this way. The fall of the Berlin Wall and the reunification of Germany were going to create a \$2 trillion dream economy whose skilled workers and world-class manufacturers would make it the envy of the world. But instead of newfound riches, Germans woke up to find themselves straining under high interest rates, brutal global competition, labor strife, and a recession that's putting all of Europe into a blue funk. No longer the economic-miracle nation, "Germany's suitability as a location for business and industry is being questioned," laments Daimler Benz Chief Executive Edzard Reuter. "German companies have lost their international lead."

Now, Germany Inc. is fighting back.

Stunned by its economic comeuppance, Germany is finally getting serious about restructuring in a way that Japan did after the yen shock of the 1980s. And this isn't just a knee-jerk reaction to an economic downswing. From mighty Daimler to the thousands of tiny *Mittelstand* companies that form the backbone of the economy, something far more profound is unfolding. Says IBM Deutschland CEO Hans-Olaf Henkel: "There's a revolution under way."

Indeed, German manufacturers are in the midst of the biggest upheaval since the country was rebuilt from the ashes of World War II. What they are trying to avoid is a lengthy industrial decline that would spell big trouble for the entire

EXPENSIVE WORKERS...



...FALLING EFFICIENCY...



GERMAN INDUSTRY IS FACING MAJOR CHALLENGES

...AND SLUMPING EARNINGS

ESTIMATED CHANGE IN 1993 PROFITS

ELECTRICAL EQUIPMENT	0%
ENGINEERING	-6
CHEMICALS AND PHARMACEUTICALS	-8
AUTOS AND SUPPLIES	-31
METALS	-45

DATA: BANK JULIUS BAER, BARCLAYS DE ZOEETE, WEDD SECURITIES LTD., DRI/MCGRAW-HILL



**STRIPPING OUT COSTS:
MERCEDES IS RUSHING
OUT PRODUCTS THAT CAN
COMPETE ON PRICE, NOT
JUST STYLE AND
ENGINEERING**

wage moderation and greater job flexibility for a stake in German corporate profits. And in coming months, Chancellor Helmut Kohl is expected to slash government spending, cut business taxes, spur deregulation, and privatize the state phone monopoly DBP Telekom.

SEA CHANGE. But the politicians are not the driving force behind Germany's economic revolution. Corporate Germany itself is the No. 1 actor. Manufacturers have shed 500,000 workers since early 1992, as they have sought to ease the sting of Germany's \$25.21-an-hour production costs (charts). They are also going global with a vengeance. Germans are opening plants in eastern Europe, China, and South Carolina to tap into cheaper labor, serve faster-growing markets from local bases, and concentrate domestic efforts on high-technology goods. The move abroad may undermine Germany's reputation for producing top-quality items. But manufacturers are undeterred.

Labor flexibility is only part of the equation. Management ranks are being flattened to

world. Even mired in recession (charts, page 50), Germany remains the fulcrum of Europe. With currency turmoil and political tensions already threatening the European Community's unity plans (page 55), the EC desperately needs a strong and expanding German economy to make its free-trade efforts pay off. The economies of the former Soviet bloc also need Germany as a source of investment and a market. America has a big stake, too, since it sells Germany \$30 billion worth of goods and services a year.

Most experts believe the Germans will pull it off. They point to such enduring German strengths as a highly trained and efficient work force, an efficient national infrastructure, and years of export savvy. But success is hardly guaranteed, and many Germans will pay a painful price as they struggle to catch up to their global rivals. As the recession bites deeper, corporate restructurings are severely straining the social contract among business, labor, and government that has underpinned

four decades of postwar growth. Germany's highly unionized, well-paid workers now are being told to shoulder huge layoffs and accede to stagnant or even lower living standards. No longer can workers count on short 35-hour weeks, lengthy vacations, or comfortable sinecures. "You used to join Siemens for life," notes Claude Courteaux, Paris-based senior vice-president with General Electric Co.'s Medical Systems Div. "Now, there can be no more promises."

As that realization spreads, tensions are mounting. With unemployment expected to rise past 9%, jobs are growing scarce and violence against foreigners is on the rise. So is labor strife: Across eastern Germany, for example, some 70,000 metalworkers walked out in May seeking a 26% wage increase to bring eastern salaries closer to western levels.

But the broad outlines of a new social contract are appearing. Despite the eastern labor stress, union leaders are now hinting that they would be willing to trade

speed decision-making. And executives, engineers, and factory workers alike are rethinking the entire way they design, produce, and market everything from cars to environmental cleanup gear. That's leading managers into a sea change. For the first time, they're being governed by what the market wants instead of what engineers think consumers need.

Why are the Germans being shocked so suddenly? Part of the reason is that the reunification binge concealed the need for the structural changes required to respond to the U.S., Japan, and even France. With domestic demand booming, competitive retooling was hardly a priority. But now that recession has sunk in, there is little escape from the imperative to become competitive. Much of that effort is centered around the four big industries—autos, machinery and machine tools, electrical engineering, and chemicals—that account for 60% of Germany's \$425 billion-a-year export trade. At the forefront of competition from Asia, the U.S., and eastern Europe,



NEW TECHNOLOGIES:
METALLGESELLSCHAFT'S ALUMINUM-
WASTE RECYCLING IS BUT ONE
EXAMPLE OF A NEWFOUND ABILITY TO
BRING APPLIED SCIENCE TO MARKET

they now are the acid test for Germany's makeover.

Carmakers and their suppliers alone account for nearly \$1 of every \$5 in German exports. With 1.6 million workers, they're also the nation's biggest employer. But now, with everyone from Toyota to Peugeot to General Motors eating their lunch, German auto makers are embarking on radical shock therapy to restore their edge. Take Volkswagen. To CEO Ferdinand Piëch, the company is in a "crisis." No wonder: The highest-cost big-volume car producer in Europe, it made 3.5 million vehicles last year, yet it couldn't earn a pfennig. So Piëch is getting tough. Since taking over on Jan. 1, he has cut VW's plant spending in half, to \$3.8 billion, and is slashing its work force by 36,000, or 14%. He is also orchestrating a savage campaign to shrink VW's \$33 billion annual supply bill.

PROFIT SKID. This spring, Piëch won away General Motors Corp. purchasing czar José Ignacio López de Arriortua with a rumored \$20 million package. At GM, López won acclaim—and plenty of fear—for browbeating parts makers into reducing prices. Now, he's demanding VW's supplier corps cut prices as much as 50%. In so doing, estimates Bank Julius Baer analyst Carmen Domenech, López may be able to save \$4.8 billion a year.

Mercedes-Benz is also moving. The whipping that the Japanese have delivered to German luxury-car makers was particularly humbling to its CEO, Helmut Werner. Last year, as Mercedes' profits skidded 45%, execs were stunned to discover that their production costs were 35% higher than Japan's. In response, Werner declared his cars "overengineered" and ordered up a new line that more consumers can afford. One answer will appear in showrooms later this year: an amenity-packed "C-class" sedan that will cost about the same as the less-well-equipped 190-series model it replaces. And close on the heels of BMW's move to build an assembly line in Spartanburg, S.C., Mercedes is preparing to open its first U.S. auto plant to build sport utility vehicles.

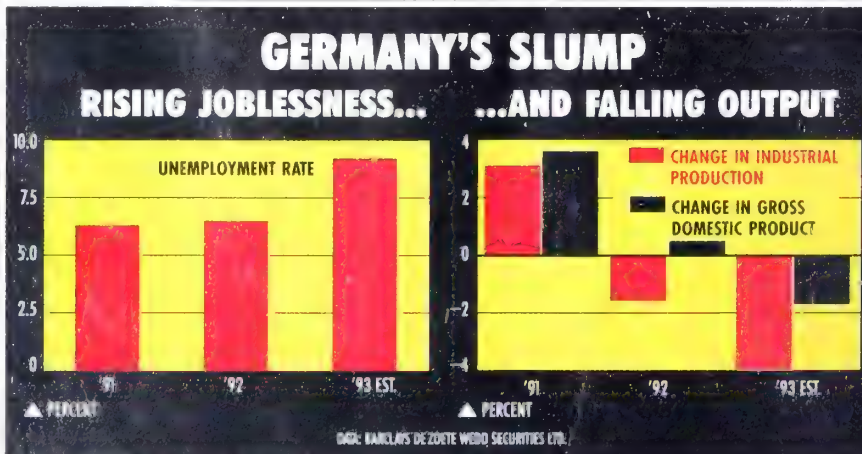
The auto producers' battle to remain competitive is having a profound effect on the *Mittelstand*, which generates half of

Germany's GDP. Facing the end of fat contracts, these smaller companies are devising new methods so they, too, can survive. That's the story at Allgaier-Werke, an auto-tool maker 25 miles from Stuttgart. Forced to slash its prices as much as 30%, it has switched to "concurrent engineering" involving teamwork with BMW and other customers. That allows Allgaier suggest changes as cars are being designed. One such change permitted BMW cut from eight to three the number of steps it needs to stamp fenders.

"IRON GRIP." If regaining competitiveness in autos is vital to Germany's present, electronics will be the key to its future. Realizing that, Siemens, Bosch, and Daimler's AEG unit—the big three of electrical equipment and electronics—are rushing to retake lost markets and conquer new ones. The Germans are investing billions in chip technology. But instead of building basic low-margin chips, they are focusing on highly profitable complex systems built around application-specific chips. Those include such products as anti-lock-brake systems and airbags. Last year, for example, AEG opened a \$2 billion microelectronics joint venture with Deutsche Aerospace. "We have to keep an iron grip on the intelligent part of a car," says AEG chief Ernst G. Stöckl.

The strategy plays to Germans' adroitness in engineering complex systems. But to win in new markets, they will have to move. Just ask giant Siemens, whose bureaucracy was renowned for hamstringing innovation and making the customer the last priority. When private competition DBP Telekom was allowed in 1992, Siemens was thrust into competition against L. Ericsson and Motorola Inc. as phone users clamored for sleeker—and cheaper—digital units. To keep its customers, Siemens had to engineer a digital phone selling for \$1,150, an eighth of its predecessor's price.

Next time around, Siemens may be floundering out of the gate. Since 1989, it has flattened management and created hundreds of profit centers. Siemens' private commun-



ions group cut product-development time by 30% last year and is now gunning for 40%. In Toulouse, France, it has halved production time for electronic motor controls. A leaner Siemens is also winning big orders in Asia, a key market growing 10% a year. In 1994, it will start producing 300,000 mobile phones a year in Shanghai.

The sales surge is making rivals take notice. Siemens recently snatched a Greek order for marine telecommunications away from Alcatel by undercutting the French company's bid by 20%. "They're responding quickly in the market, which is not business-as-usual," says Alcatel Cable Chairman Claude Bovis. "Siemens has become closer to the customer—and more efficient."

Electronics makers also are ditching the tradition of producing from start to finish in Germany. To save money, AEG started making cases for high-voltage power-plant transformers in Poland, Greece, and Turkey last year instead of in Germany. So now, a truck leaves Istanbul every month headed for Berlin, carrying an enormous steel casing for AEG's top-of-the-line, 400-ton transformer. Once the casing hits Berlin, German workers install the high-priced electronic circuits that make the unit work.

Germany's electronics giants reprogram themselves, metals producers and other old-line industries are going high-tech in search of business. Hit hard by collapsing steel orders, for example, Thyssen's O. Heinz Kriwet is jumping into mobile phones. A Thyssen-led consortium including BellSouth Enterprises Inc. is spending \$4 billion to build Germany's third mobile-phone network. The network will create 8,000 new jobs and may garner annual revenues of \$1.2 billion by the decade's end.

GREEN SHIFT. Then there's Metallgesellschaft (MG), Europe's largest nonferrous metals company. In five years, O. Heinz Schimmelbusch has spent \$6 billion to buy recycling, pollution-control, and decontamination companies. MG is now one of the largest environmental-services groups in Europe, with sales of \$3 billion. Laws requiring waste recycling play into Schimmelbusch's green strategy. MG is the only company in the world with the technology to recycle highly toxic aluminum-slag waste.

To usher in this new era and help manufacturers compete in new industries as well as old, labor and government leaders are working together. They are moving to chip away at the restrictive work rules and lavish benefits that middle-income Germans

AFTER THE RESTRUCTURING

The new German model will:

- ▶ Rely more heavily on cheaper manufacturing bases; more goods will be made outside Germany
- ▶ Demand much greater flexibility with labor costs, work rules, and social requirements at home—in effect creating a new social pact
- ▶ Concentrate on delivering what consumers want, not on making expensive, overengineered products
- ▶ Move into newer, higher-value-added technologies
- ▶ Depend on a much more deregulated and privatized economy with more opportunities for private enterprise

DATA: BUSINESS WEEK

have come to regard as their birthright. If those are to be contained, unions will have to settle for as much as a decade of wage stagnation. That may lead to the first big shift in labor-management relations in years. Despite fiery rhetoric during the eastern German walkout, metalworkers' chief Franz Steinkühler may trade more job flexibility and less generous wage hikes for government aid to emerging industries and a share of employers' earnings for his 3.4 million members.

It's too late for organized labor in America to consider such a trade-off, but the different position of unions in Germany means that leaders such as Steinkühler have a unique interest in making sure Germany regains its competitiveness. In no other industrialized country is labor so involved in corporate governance. Workers control up to a third of the seats of big companies' supervisory boards, giving them a major say on everything from the selection of CEOs to restructurings and

layoffs. Steinkühler, for instance, is deputy chairman of VW. As such, he helped select the two men—CEO Piëch and López—who are now savaging the auto maker's payroll. But questions over his role in an alleged insider-trading scandal may diminish his power. Steinkühler, who is also a Daimler-Benz board member, admitted earning \$38,000 trading shares in a Daimler company. He denies any impropriety.

Germany's economic turmoil is breeding a distinctively German-style effort to come to grips with an economic crisis the nation never expected. But it's one Germans must confront with sudden intensity. They are being asked to make huge competitive strides of a sort that the U.S. and Japan are making. The success of this catch-up depends on nothing less than reawakening the German spirit that rebuilt the country after World War II.

The risk is that years of prosperity mean German business, labor, and government won't be willing to make the sacrifices that have made the German economic model work. But as each day passes, evidence is mounting that the Germans will agree to adjust the underpinnings of their system to preserve their prosperity.

By John Templeman and Gail E. Schares in Bonn, with Jonathan Levine in Paris and William Glasgall in New York

NEW SOCIAL CONTRACT: IG METALL BOSS STEINKÜHLER WILL BE KEY TO CHARTING LABOR'S ROLE IN A WORLD OF LESS GENEROUS WAGES AND MORE FLEXIBLE WORK RULES



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DAEWOO IN SONORA: TO BENEFIT FROM NAFTA, THE COMPANY IS ASSEMBLING TELEVISIONS IN MEXICO

THE KOREAN TIGER IS OUT FOR BLOOD

As Japan struggles, Korea shows its claws in consumer electronics

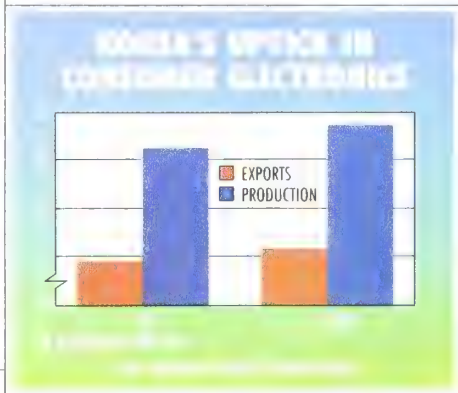
Working in the hills of the South Korean township of Kihung, Samsung Group research engineers are engaged in a quiet battle to beat the Japanese to the punch. They are sinking huge sums into developing a digital videodisk player they hope will replace the traditional VCR just as the compact-disk player made the old turntable history. Although the prototype looks as big as a refrigerator, Samsung engineers expect to scale the size down to that of a regular VCR by 1995.

Samsung's competitive gamble is a clear sign that Korea's consumer electronics industry is going on the attack. Last year, worldwide recession and keen competition from developing countries cut Korea's consumer electronics exports by 2%. But now, Samsung and the two other major Korean electronics giants—Goldstar Co. and Daewoo Electronics Co.—are looking strong. They are benefiting from Japan's muscular yen, new markets, and the startup of production facilities in Europe and Mexico. To top it off, the Korean market, which accounts for 40% of their sales, has improved dramatically.

It also doesn't hurt that Japan, Korea's chief competitor, is in a slump. A 10% increase in the yen's value boosts Korean exports by 8%, according to a

government forecast. And persistent quality problems have hamstrung a Japanese strategy to grab global market share through Southeast Asian transplants. In fact, the Koreans are even starting to make headway in the Japanese market. Exports by the three Korean companies to Japan rose by 40%, to \$156 million in this year's first quarter.

TAPING POWER. Buoyed by the good news, Korea's electronics companies are scheming to take the Japanese on in risky, cutting-edge products. One example is the Samsung digital videodisk player, which has twice the capacity of existing disk players and can record. Japanese and European companies are racing to develop the same types of products, but Samsung is banking on a technological head start, as well as man-



ufacturing and pricing advantages. "We will be in a position to compete if and when the Japanese makers begin marketing one," says a Samsung executive.

Developing such sophisticated products can be exorbitantly expensive—up to \$50 million for the digital disk player. To improve their cash flow, Samsung and the other Korean companies want to grab footholds in growing markets of the former Soviet Union, Pakistan, and China, where their lower-priced products are popular. Eastern Europe, for example, is emerging as a major market for the Koreans. Their exports there rose by 200%, to \$197 million in the first quarter of 1993. The Koreans are expanding in other new markets, such as Uzbekistan, Russia, Thailand, and Vietnam.

The Koreans expect offshore production facilities to pay off handsomely. In Europe alone, they have invested about \$600 million to

avoid antidumping actions that have hurt exports. Daewoo spent more than \$197 million in France to make color TVs and microwave ovens. Samsung has expanded production in Britain and Spain, and Goldstar has a facility in Germany. All three also have set up plants in Mexico to take advantage of the North American Free Trade Agreement. "Through exports alone, we cannot gain a sizable market share," says Kim Hun, executive managing director of Samsung Electronics Co.

The Koreans also have seen dramatic improvement in their domestic market. And to beef up Korea's research and development, the government is offering subsidies. Seoul has kicked in, for example, to help three Korean electronics companies develop high-definition TV tubes. It's paying off. In April, the companies unveiled a prototype picture tube that may give the Koreans a promising start in HDTV.

But they have a long way to go. They still are dependent on Japan for many high-tech parts. A study by the Hansa Research Institute in Seoul concludes that Korea has attained only 80% of Japan's technology level in electronics.

Many analysts believe Korea's electronics industry is at a critical juncture. Since it accounts for nearly 30% of manufactured exports and employs more than 10% of the nation's factory workers, the industry is simply too important and too powerful for the government not to support it. The Koreans will need all the help they can get if they are to top the Japanese in the high-stakes game of consumer electronics.

By Laxmi Nakarmi in Seoul, with Patrick Oster in Brussels

WHO CAN PUT EUROPE'S LUMPY-LUMPY TOGETHER AGAIN?

t should be the moment of triumph for European Community chief Jacques Delors. By finally ratifying the Maastricht Treaty on European union on May 18, Denmark's voters have all but assured that Britain, Europe's last holdout, will also sign on. But just as Delors' master plan for Europe is falling into place, it is looking increasingly obsolete.

When EC leaders unveiled the unity treaty in the Dutch town of Maastricht in late 1991, they promoted it as the blueprint for a post-cold war Europe. A unified monetary system, dreamed for the end of the decade, was to help transform Europe into an economic superpower to rival Japan and North America. There seemed to be no stopping the momentum, which expected to draw in new member states, from Scandinavia to eastern Europe, and gradually to replace the U.S. as the Continent's defender.

Now, the window for putting such an ambitious plan in place has closed. Europe's political leaders are fumbling everything from implementing Europe's single market to the debate of the former Yugoslavia. And recession and rising unemployment have made it nearly suicidal for governments to stay on course for a monetary union built on German-style financial discipline. "There's no doubt that a completely new agenda has to be prepared with a more realistic timetable," says Unilever Chairman Michael S. Perry.

But post-Maastricht Europe will turn out to be a far more arduous affair than originally envisioned. With political union now a distant dream, the growing clout of Europe's regional economies will further erode Brussels' role as Continental maestro. While a smaller, de facto monetary union may yet emerge in northern Europe, it will be dominated by the German Bundesbank. In fact, without a strong EC, Germany is likely to call the economic tune on the Continent. That will cause others,

particularly the French, to worry about its unchecked power.

There is little sign of pro-unity forces regaining the initiative anytime soon. If anything, European disunion is growing. While the EC gave Denmark the right to opt out of both monetary union and a common defense policy in order to get voters on board, Danish opponents of Maastricht still greeted its approval with rioting. Although Britain will likely ratify Maastricht, opposition there runs deep. Even France, a core EC country, is foot-dragging on dismantling border controls because of fears of immigration and cross-border crime. New aspirants to the EC, such as Austria and Sweden, are getting queasy and will be more likely to insist on their own special deals in return for joining the fold.

SURVIVAL. In Brussels, the bitter process of getting Maastricht ratified has all but paralyzed the EC bureaucracy. Delors' effectiveness has dwindled as Maastricht has floundered. Pressure from France for him to abandon Brussels for a run in the French presidential elections in 1995 has made him seem like a lame duck at the EC.

No one is filling the leadership vacuum. One might think, for instance, that European leaders would move to shore up the fledgling democracies on their eastern flank. But with the EC economy projected to shrink by as much as 1% this year, pressure is building instead to close EC markets to countries such as Poland and Hungary. While such moves may seem incredibly shortsighted, politicians are a lot more worried about their own political survival than they are about acting like statesmen. That is why Europe is likely to witness a lot more parochialism than grand vision for the next couple of years.

By Bill Javetski in Paris and Richard A. Melcher in London, with Patrick Oster in Brussels



MAASTRICHT OPPONENTS RIOTED IN DENMARK

GLOBAL WRAPUP

PRODI RETURNS TO IRI

Italy's multibillion-dollar privatization program stands to get a big boost from the appointment of Romano Prodi as chairman of Istituto per la Ricostruzione Industriale (IRI), the loss-lagging state holding company. Prodi held the top job once before, from 1982 to 1989, at IRI, a diversified group with \$53 billion in sales. He now succeeds Franco Nobili, who was arrested on corruption charges. Prodi favors a broad sell-off of key IRI holdings, such as telecommunications group STET and engineering giant Finmeccanica. For two years, the country's political parties have held up moves to privatize

parts of Italy's vast public sector, keeping tight control of the state-owned companies. With the parties reeling from the country's huge corruption scandal, Prodi will have a freer hand.

TAXING NAFTA

House Majority Leader Richard A. Gephardt (D-Mo.), other fence-sitting Democrats, and environmental groups are insisting that the Clinton Administration agree to a cross-border tax or some other revenue mechanism to pay for the North American Free Trade Agreement. They are privately circulating estimates of up to \$30 billion for the costs of environmental cleanup in border states and re-

training U.S. workers whose jobs migrate to Mexico. Both the Administration, which opposes a cross-border tax as the antithesis of free trade, and the Congressional Budget Office think those numbers are way too high.

RUSSIAN CAPITAL

The Russian central bank has held its first treasury-bill auction. Although only \$800,000 was raised, the sale is viewed as laying the groundwork for a securities market. The three-month bills carry a 16.8% coupon—not a great bargain, considering that inflation is running at 20% a month and that in one recent week the ruble plunged 20% against the dollar, to 934.

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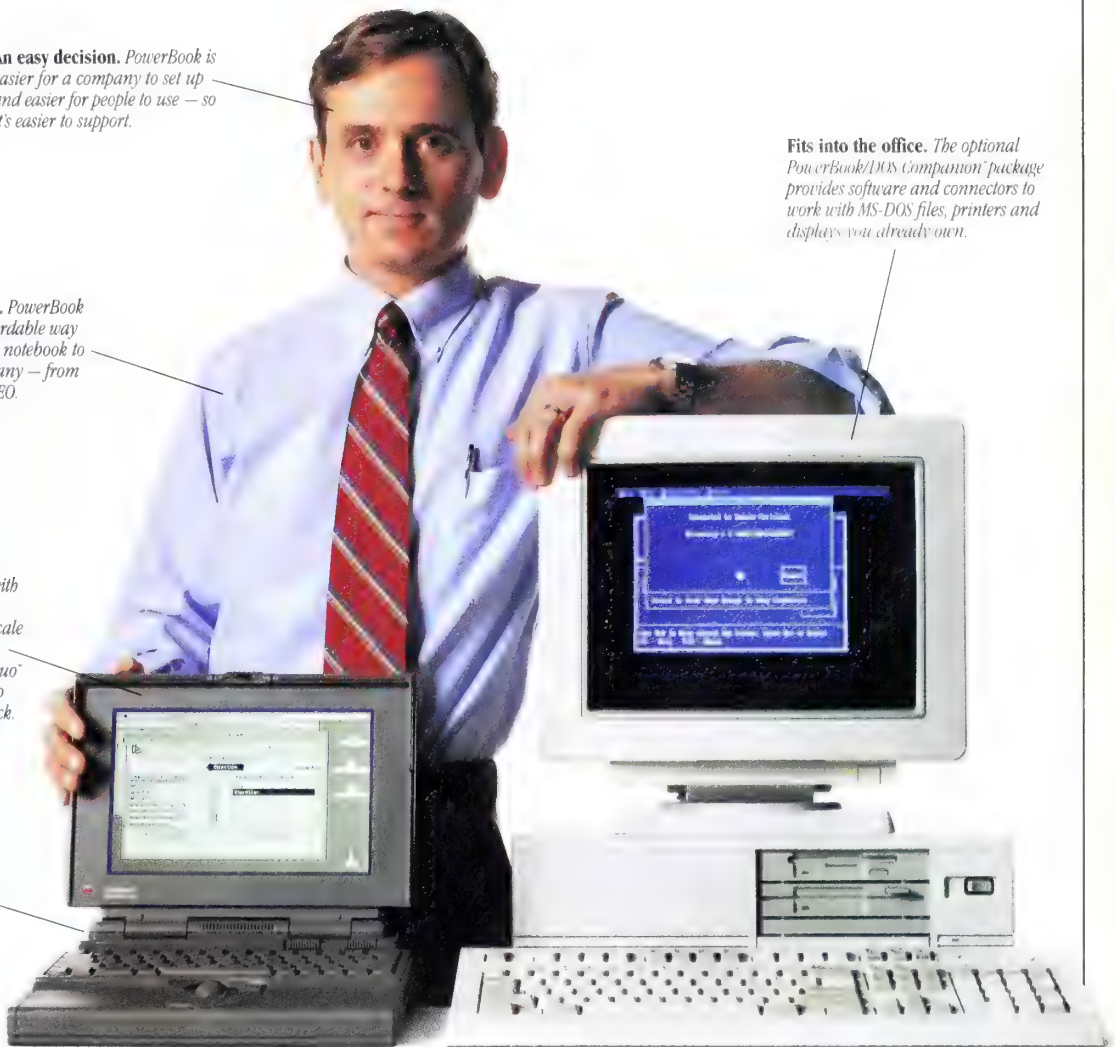
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DYNASTY? KATHLEEN BROWN'S DAZZLING EDGE

She could be the third in her family to govern California

Gushing with affection, Warren Beatty warmed up a crowd of Kathleen Brown fans at a \$1,000-a-plate fund-raiser in San Francisco last December by revealing that he once took her on a date—to a similar event when her big brother, Jerry, was running for governor. But before Beatty could finish, Brown brought down the house by playfully scolding him for not mentioning what really happened: He never even got a goodnight kiss. Brown fended off the notorious womanizer by politely asking Beatty to give the babysitter a lift home.

A lot of California Democrats are lining up to kiss Kathleen Brown these days. A party heartthrob since winning election in 1990 to the traditionally humdrum state treasurer job, the 47-year-old Brown has all but been anointed by the party power structure as their 1994 gubernatorial nominee. And why not? Charismatic, telegenic, and the latest in a political dynasty that boasts her father and brother as former governors, Brown has raised a staggering \$3 million for the race, even though she won't officially declare until the end of the year. And wounded Republican incumbent Pete Wilson looks to be an easy target.

Still, the race is 18 months off, and California has a way of going against the odds. It's no sure thing that Brown will follow her father, Edmund G. "Pat" Brown, or her brother to the statehouse. **"ALL OUT."** For starters, few front-runners ever started off so unknown. Sure, California's 15 million voters know the Brown name. But they don't know what Kathleen Brown stands for. The state treasurer job keeps her largely glued to her office or chatting up Wall Streeters. Indeed, according to a recent poll

done for the *San Francisco Examiner*, Brown would narrowly beat Wilson in a one-on-one contest—but only because the beleaguered governor's numbers are so pathetic. And the poll shows Brown running head-to-head with Insurance Commissioner John Garamendi for the Democratic nomination.

Garamendi may lack Brown's early party backing, but he's a bona fide opponent. On his first day on the job in 1991, Garamendi started a war with the un-

she actually would do as governor. Instead, she mouths lines from her rousing stump speeches, which are pumped with optimistic visions of California's high tech future. Evoking the glory days of the state when her father put legions to work building its highways, aqueducts and universities, Brown sees California reinventing itself with such new industries as high-speed trains and environmental-cleanup technology. "The California Dream isn't dead," insists Brown. "Anything is possible in this state."

"SISTER MOONBEAM." For now, all she can point to is her solid, but unspectacular, record as treasurer. By all accounts, Brown has done competent work borrowing the funds California needs to operate its vast government. And as a trustee of the state's giant and powerful pension funds, Brown has vocally criticized corporations whose policies she is at odds with. "She's sailed through remarkably well," says Lazard Frères &

BROWN'S BIO

EDUCATION

Stanford University, 1969, B.A. history; Fordham University Law School, 1985

CAREER

Bond lawyer, O'Melveny & Myers, New York and Los Angeles, 1985-87; Commissioner of Los Angeles Board of Public Works, 1987-89; Los Angeles Board of Education, 1975-80; California Treasurer, 1991-present

PERSONAL

Married to Van Gordon Sauter, head of Fox News and former CBS News chief; three grown children from previous marriage

HOBBS

Reading, movies, hiking in Idaho, and road trips with Sauter in their Ford Bronco.

DATA: BUSINESS WEEK



BROWN: MEETING WITH BLACK LEADERS AT AN NAACP DINNER

popular insurance industry by announcing he would freeze auto- and property-insurance rates. The move made the front page of every major paper in the state. Garamendi has stoked other headlines by taking on the savings and loan industry, sponsoring earthquake-insurance legislation, and promoting a statewide health-care reform system that he boasts will become the model for the nation. All three initiatives have yet to yield results, and Garamendi has suffered court setbacks in his auto-insurance rollback plan. But California's insurance czar can make life miserable for Brown. "Garamendi is going to go all out," predicts veteran *Sacramento Bee* columnist Dan Walters.

Brown deflects all questions on what

Co. senior partner Felix G. Rohatyn

But what makes Wall Street happy isn't necessarily what gets votes in the San Joaquin Valley. To prop up the state's faltering credit rating and help narrow the \$9 billion budget gap, Brown took the unpopular tack of proposing to extend a soon-to-expire state sales tax that Wilson rejected. And she has scaled back by more than half the \$6 billion she had planned to raise this year to help build new roads and schools.

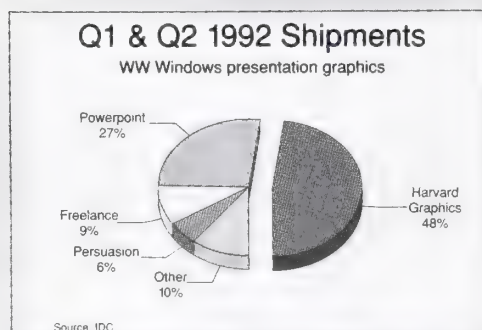
Brown's sometimes wacky big brother could be another problem. She will have to fight the flaky "Sister Moonbeam" image Republicans are already trying to pin on her. "Kathleen Brown has no experience," says Republican Party Chairman Tirso del Junco. "She hasn't

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ken a strong position on anything." She'll have to do so soon if Brown is going to combat Garamendi's likely canidacy and the far-fetched but possible l by flamboyant House Speaker Willie Brown Jr. She's already tapping the dding California women's network, king arms with newly elected U.S nators Dianne Feinstein and Barbara xer. That's smart—two polls by Mer- 1 Field show that California Demos ats prefer women candidates over ually qualified" men by wide margins.

HUGH-TO-GO. Brown is also calling on ends in Washington. Transportation cretary Federico F. Peña recently owed up in Los Angeles to hand over \$1.4 billion check to the county for ass-transit construction. While in town, ña agreed to chat up Brown's Trear- er's Forum, a quasi-political issues oup that helps Brown cozy up to pon- tial contributors.

Collecting money for her upcoming mpaign is definitely something Brown eels at. In a flurry of \$1,000-a-plate nd-raising events last December, Hol- wood moguls and Silicon Valley execu- ves wrote checks for \$2.1 million. Re- ntly, Brown has stepped up her re-campaign positioning, meeting with

young entertainment-industry types at a trendy Melrose Avenue restaurant and schmoozing at an NAACP awards cere- mony. And she travels to New York fre- quently to get campaign contributions from Wall Street bankers.

Democratic Party insiders think Brown will raise at least \$5 million this year, possibly enough to scare Garamen-

Incumbent Wilson is a tough rival: "He keeps dropping [marbles] in front of you, and eventually you slip and fall"

di out of the race. Already, she has the backing of such Hollywood heavyweights as Walt Disney Co. chief Michael D. Eisner and Sherry Lansing, head of fea- ture films for Paramount Pictures. A well-orchestrated, and no doubt pricey, media campaign is only a few bucks away.

But then Brown must still beat in- cumbent Wilson. A doggedly determined former Marine, Wilson has never lost a

re-election battle and is no stranger to kick-and-tell politics. After Feinstein at- tacked Wilson for lobbying on behalf of the savings and loan industry in 1990, Wilson quickly turned the tables when his troops found records tying Fein- stein's husband, Richard C. Blum, to a failed bank. You can be sure he's looking for dirt on Brown. "It's as if he has this little bag of marbles," says Darry Srag- ow, who worked on Feinstein's hard- fought gubernatorial campaign against Wilson and now is Garamendi's chief po- litical adviser. "He keeps dropping them in front of you, and eventually you slip and fall."

Brown knows she has a long road ahead of her. "Two years is a lifetime," she says. But Brown also insists she isn't worried: "There's no doubt in my mind that I will be plenty tough enough to win." She had better be. Few political dynasties last forever. And although Kathleen's dad, now 88, loves to say that she's the fairest and brightest Brown of all—and the best politician in the family—she has plenty of hurdles to pass before she can turn her political potential into electoral reality.

By Eric Schine in Los Angeles, with Leah Nathans Spiro in New York

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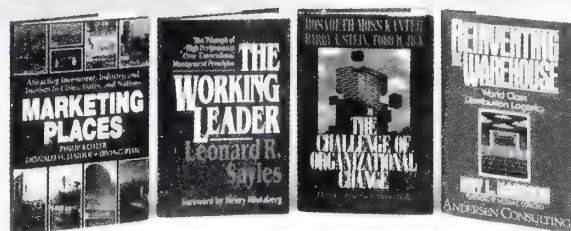
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YOU CAN DO IT!

LOTS OF THE BEST STOCK-PICKERS IN THE MARKET ARE SMALL FRY FAR FROM WALL STREET



Joe Smith does it. And so does P. J. Bianco. Irwin Dubinsky and Lennar Width and Rick Boettcher and Ma Pope all do it, too.

These people have taken charge of their own financial destinies. They buy stocks.

By that simple act, they and countless others have done what has eluded thousands just like them: violated the investment world's most precious maxim—that individual investors are bound to lose when it comes to buying equities. They fly in the face of conventional wisdom and have a lot of fun doing so. And, above all, they make money—often a lot more than they could make by leaving their investments to the pros.

Smart individual investors have found an answer to the financial problems that face millions of Americans who can no longer count on rising incomes and corporate largess. If they're like Width, who has been running his own portfolio for 37 years, they can finance a worry-free retirement (page 69). He's a dazzling role model for baby boomers, many of whom will be facing retirement with fast-shrinking pensions—and usually insufficient savings, partly because they don't own enough stocks.

If they're like Phil Carlson, a New Jersey social worker, they can finance their children's college education (page 70). If they're like Boettcher, they can accumulate six-figure portfolios on a pharmacist's salary—and enjoy a fascinating pastime (page 65).

PASS THE PROS. The stories of Width, Carlson, Boettcher, and others were culled from interviews conducted by BUSINESS WEEK with scores of successful individual investors nationwide. Their widely disparate methods are more instructive than a shelf full of how-to books. Their experiences also debunk the notion that Wall Street knows best. By and large, professional investors do a mediocre job of stock picking. That, along with their expenses and fees, causes them to lag well behind the market (chart).

A percentage point or two may not seem like a lot, but it looms large over time. A \$10,000 investment 10 years ago in the average equity mutual fund would have grown at an annual rate of 11.9%, while the Standard & Poor's 500-stock index grew 15.6%. The equity fund would have grown to \$30,782; the S&P 500, \$42,617.

There is, of course, no way of peeking into the portfolios of thousands of individual investors. But the next best thing is the data collected by the National Association of Investors Corp., the umbrella organization of 9,200 clubs of individual investors nationwide. Each club

network maintains a portfolio whose results are reported to the NAIC. The numbers are impressive.

The returns belie the clubs' stodgy image. The average club in the 1992 survey earned a 13.9% annual return over its life. Even more noteworthy is that 69% of them have beaten or matched the S&P 500 since they have been investing.

The lesson taught by the clubs is that outsmarting the pros at their own game is not a supernatural feat. People from all walks of life can do it. But they're serious about it, and they're in it for the long haul. Make no mistake: The stock market is not a game. Investing is not a game. It is not gambling or "playing the market" on a hot tip. It can be intimidating—and anyone who enters it will make mistakes. But the individual investor has advantages that would make an institutional investor pool.

TIME AND COLD. First, the individual investor is just that—an individual, not a member of a herd. Institutions are notorious for running in packs, following the lead set by influential brokerage-house analysts and buying, en masse, in hot sectors. But sectors that are sizzling today can be as cold as meatloaf tomorrow. By sticking with the crowd, institutions guarantee that their results will never be more than average.

Individuals also have no need to look good—or to sell themselves to pension-fund trustees. Neil Johnson, a managing director of investment consultant Hamilton & Co. in Princeton, N.J., notes that money managers frequently become pigeonholed. At the behest of plan sponsors and consultants, professional investors box themselves into investment styles: large-cap value, small-cap growth, and every permutation in between.

By emphasizing style, investment pros can lose loads of money for their clients but still claim victory—if their narrowly defined peer group has done even worse. This rigid adherence to an investment style also ties their hands when the market goes against them. "The only style that matters is making money," says Johnson, "and individual investors do

whatever they have to do to achieve that." Flexibility is one big reason why private investment partnerships for the wealthy, known as "hedge funds," have achieved impressive results compared with conventional money management.

Indeed, the flexibility enjoyed by individuals will come in especially handy if, as many market observers fear, the stock market is overvalued and facing a

need to beat "benchmarks," the smart investor can pick a stock no matter how much Wall Street hates it. "The individual has an advantage in that he has a much longer time horizon," notes John Markese, president of the American Association of Individual Investors. The individual, he adds, can make picks that are attractive but that are ignored by the institutions, because the market cap

of the company is too small or because large blocks of stock are not available.

The individual has another major advantage. Institutions often "dress up the portfolio" by dumping unattractive stocks by the end of the quarter. Sometimes, that means selling sound companies that have temporarily fallen on hard times. The wholesale housecleaning of drug stocks earlier this year is a prime example. Individuals never have to sell companies they like just because the market has temporarily turned against them.

True, the big institutions have some advantages that look formidable at first blush. For one, they're wired for instant information. If there is news about a company, good or bad, they can react immediately—and often wind up making a lousy decision. On Apr. 28, after the chief financial officer of Eastman Kodak Co. resigned, institutions dumped the stock, and the shares fell almost 10% in one day. But the stock has since recovered neatly. Another illusory "institutional advantage" is their low commissions. But individuals' higher transaction costs are insignificant over the long haul.

TIME AND EFFORT. Sure, there are pitfalls for the neophyte investor. Buying stocks is not for everybody. It requires time and effort, to research

the stocks and then monitor their performance. If you can't make the commitment to invest in stocks the right way, stick to mutual funds.

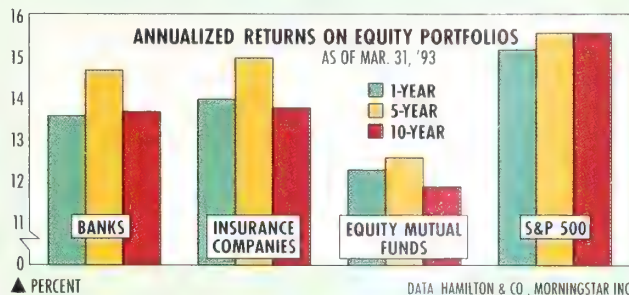
If you're ready to start buying stocks on your own, take a cue from the successful individual investors interviewed by BUSINESS WEEK and don't let the conventional wisdom lead you astray. They have been successful by ignoring some of the most oft-cited standard rules of in-



THE PROS' STOCK OWNERSHIP HAS ROCKETED...



...BUT THEIR PERFORMANCE HAS LAGGED



crash. No one can predict if such worries are correct, of course—and to contrarians, the widespread bearishness is actually bullish. Still, if an individual believes the market is riding for a fall, the choice is clear—sell short. Short-selling is a luxury that is generally denied mutual funds and pension funds by dint of custom, regulation, and client preference.

With no client, no board of directors, no quarterly performance targets, no

THE INVESTOR'S PLAN OF ATTACK



SET YOUR STRATEGY

Remember your main advantage: You are not an institution. All stocks are fair game for investment—or short sale. Forget the conventional wisdom that growth-stock investing is just for the young. Even if you are approaching retirement, don't neglect the small-company stocks that offer the most growth potential.



MARSHAL YOUR INTELLIGENCE

Smart investors are never off duty. Your best ideas will come from your own backyard. Keep tabs on Wall Street research—but take it with a teaspoon of salt. Ask companies for annual and quarterly reports as well, and subject them to searching scrutiny.



DEPLOY YOUR ASSETS

Narrow your stock picks to a manageable number. In choosing the most promising companies, don't worry about diversification, and don't try to time the market. But wait until after quarterly earnings announcements to see if the latest profit report confirms your view of the company.

MONITOR YOUR POSITIONS

Don't just buy stock and stick it in a drawer. Keep tabs. If the news starts turning sour, and the company can't give a satisfactory explanation, sell. If your stock is rising, don't take profits until it begins to weaken.



DATA BUSINESS WEEK

vesting. For example, most investment advisers argue that the older you are, the more conservative your investments should be, and that as you approach the "golden years," you should be almost entirely in conservative income-producing issues such as utilities and bonds.

But the older investors that BUSINESS WEEK interviewed have one word to say about that: bull. They take a far bolder approach, and it has served them well. They still keep a large chunk of their assets in growth stocks. Yes, people at the beginning of their investment endeavors should be the most aggressive investors. They should especially keep an eye peeled for small-company stocks, which can be volatile in the short term but are likelier to have a big payoff in the long run. But age should not be a barrier to investing in growth stocks.

Take G.B. Mann. Now 81, he didn't get started in stocks until he was 50—and now owns a \$2 million portfolio. Dolly Wageman, a Los Angeles retiree, has found success with such Baby Bells as Pacific Telesis, BellSouth, and U.S. West. They yield less than electric utilities but have greater growth potential.

Diversification is another buzzword that you might do well to ignore. The pros are certainly diversified—and that's one of the reasons they perform so poorly. They have diversified so much that frequently their portfolios are pale imitations of the Standard & Poor's 500-stock index. "You should not diversify one iota," says Peter Lynch, the famed mu-

tual-fund manager and author of two books advocating individual investing. "There's no reason the individual shouldn't own only three or four stocks. And beyond 10 stocks, you're diminishing your returns," he says.

Where do you find them? The best route is to start with what you know. That's what Lynch calls the "insider's edge." Some investors buy stocks of companies they encounter through work, such as Atlanta printing executive Mark C. Pope III (page 68), or Irwin Dubinsky, chief executive of Acro Plastics Corp. in Los Angeles. Dubinsky can assess a company's strength very simply—because he does business with it. "I gauge what they buy from us to determine how much growth in sales they'll have," says Dubinsky. "As orders become greater, I buy more stock."

Many smart investors find their best ideas are all around them. Investor Pat Blanco of Miami discovered her most rewarding stock, Office Depot Inc., on a shopping trip (page 68). Jim Mulherin, a probation supervisor in Orange, Calif., invests in local companies featured in

area newspapers "before an analyst picks them up and puts them on the squawk box across the country." You can even "shop" for stocks at the local mall. Albert Budlow of Bay Harbor Islands, Fla., "discovered" Winn-Dixie Stores when he visited one of its local outlets in 1985. "The meat department looks like Tiffany's, the fish department like Cartier's," says Budlow.

But you can also get a leg up through dogged research. Take Qamar U. Zaman, a physician in Cumberland, Md. Zaman has taught himself the intricacies of initial public offerings—the playbooks of Wall Street insiders (page 72).

ROAD SHOWS. Many successful investors honed their skills through investment clubs. Width, a retired Seattle lumberyard owner, exemplifies the approach. At 74, he is living serenely in retirement with a half-million-dollar net worth he built from pocket money. Investment clubs have sprouted throughout the country, largely under the aegis of the NAIC, and some have acquired an almost-professional patina. In northern New Jersey, for example, scaffolding company executive and club aficionado Joseph Smith helps organize periodic "investors fairs" at a local hotel, inviting companies to strut their stuff before individual investors, like the "road shows" put on for professional investors.

The clubs educate their members to head off individuals' most common flaw—poor selling discipline. All too many investors take profits too early.

FORGET ABOUT
DIVERSIFICATION—
THAT'S WHAT HURTS
THE PROS

dump losers too late. Smart investors let their profits run and only sell when stocks begin to weaken. They also quickly to cut their losses if they are misjudged a company's prospects. They don't sell if the stock is down because the overall market has fallen. It's so easy and rewarding to pick stocks, why don't more people do it? Buying stocks may seem like the most basic investment activity imaginable. For the general public, it is a dying art. In 1968, some 33% of the average American's financial assets consisted of individual equities. Today, the figure is less than that. According to the Securities Industry Assn., individuals now own less than half of the nation's corporate equities for the first time in history (chart, page 63).

What happened? The rise of mutual funds is frequently offered as the main reason for the decline in stock-picking by individuals. But, more likely, the mutual-

fund boom has been a result—not a cause—of the public's flight from individual stocks. Probably there is a simpler reason: fear. There's fear of stock market volatility and, more important, fear of being ripped off. Richard Hoey, chief economist at Dreyfus Corp., notes that "individual investors have often wound up the bag-holders of some of the worst ideas of well-paid financial professionals." Some penny stocks soaked the savings of as many as 20,000 small investors at a time—people who no doubt fled to the safety of certificates of deposit and money-market funds.

"DIALING FOR DOLLARS." The investing public has been discouraged from stock-picking by Wall Street itself. Big brokerage firms push "packaged products" such as mutual funds, limited partnerships, and annuities, which often have higher commissions than stock transactions and produce an ongoing stream of management fees. For most of the past

decade, brokers were trained to sell "product," not stocks. It's a far cry from the days when full-service brokers were taught to emphasize individual stocks. "Today, they teach dialing for dollars," says Robert H. Stovall, president of Stovall/Twenty-first Advisers Inc. and a 40-year Wall Street veteran.

Investors who pick their own stocks can listen to their brokers—or bounce ideas off them. But the era of the hard sell has spawned a generation of jaded investors. They want to be self-reliant.

Well, it can be done. The investors profiled here represent a cornucopia of investment approaches, from buy-and-hold to junk bonds to new offerings. They are rank amateurs who have beaten the pros at the toughest game on Wall Street. Can you do the same? Read their stories on the pages that follow, and draw your own conclusion.

By Gary Weiss and Jeffrey M. Laderman
in New York, with bureau reports

RICK BOETTCHER

CRACKING THE MARKET LIKE A PRO

Rick Boettcher can rattle on like a seasoned Wall Streeter. He prefers to invest in stocks "with a market cap under \$100 million" and with a price multiple less than the earnings growth rate." And his performance? One that a pro would kill for: by year-end, a 21% annual rate of return since 1980.

Boettcher, however, is no pro. But the 37-year-old Portland (Ore.) pharmacist treats his six-figure portfolio as a serious business—and even works four 10-hour days a week to leave more time for investments. He keeps the portfolio around 20 stocks—it's enough names to provide diversification but not so many that he can't keep track of what's happening with each of them. To save money, he uses a discount stockbroker.

BY THE GUT. Boettcher lets his computer do the drudge work. With Microsoft Works, an inexpensive software program that includes a spreadsheet, a few keystrokes allow him to spot each stock's purchase, its date of purchase, buying price, and commission cost. By updating prices each day, he can compute the gain or loss on each position and the entire portfolio.

Boettcher also puts his computer to work searching for information. By dialing into Prodigy, an on-line service, he can check for items on companies he's following. But he still finds some investment ideas the low-tech way—in news-



BOETTCHER: HE USES HIS COMPUTER BOTH TO GET IDEAS AND KEEP RECORDS

letters, newspapers, and magazines.

The stocks in Boettcher's portfolio are hardly household names: Frozen Food Express Industries, up 284% over three years; Bowl America, a family-run company that owns a string of bowling centers in Virginia, up 69% over the four years (plus a 3% annual dividend); Jean Phillippe Fragrances, up 244% in about 18 months; and Lattice Semiconductor, a back-from-bankruptcy turnaround, up 340% in a little more than two years. His biggest loser was Floating Point Systems, a now-defunct manufacturer of components for supercomputers. He bought it at 14 in 1986 and finally threw

it in the towel at 3 in late 1987. His big weakness, Boettcher admits, is that he has never come up with a good system for deciding when to sell stocks. It's all done "by the gut."

PAYING "TUITION." Boettcher got hooked on stocks 20 years ago and, like many others, learned by trial and error. "I got my first tip on *Wall Street Week*," he recalls, and he is still an aficionado of the show. The stock was Boise Cascade Corp., which he bought in early 1974 and sold the same year at a 15% loss. He later fell prey to a high-pressure broker who talked him into selling uncovered or "naked" options, a



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highly speculative endeavor. He lost about \$5,000—about three-quarters of his investment capital at the time. Says Boettcher: "I paid some tuition there."

Boettcher learned from that experience to stick with a system he understands. But he's always expanding his horizons. He owns 25,000 shares in Air Transport International Inc., a penny stock he bought for 31¢ that now trades

at 50¢. He also bought American depositary receipts in Germany's huge Dresdner Bank, which he believes will benefit from the fall of interest rates in Europe. Those stocks are educational plays as well as investments. Says Boettcher: "It's nice to read books, but unless you've got some money at risk, you really don't learn."

By Stuart Weiss in Portland, Ore.

MARK POPE

WHEN FAMILIARITY BREEDS IMPRESSIVE RETURNS

Mark C. Pope III, the cigar-chomping chairman and founder of Atlanta-based printing company Graphic Industries Inc., has a simple rule when it comes to investing: "Know the product and the people." The 68-year-old Pope draws most of his investment ideas from his contacts in the printing industry. He is a prime example of the virtues of buying stocks in companies you know personally.

Pope's stock portfolio, now \$10 million, has enjoyed glorious performance—an annual return that has averaged 15% to 20% over the past 30 years. One reason is dogged research. Pope spends two hours a night reading analysts' reports, newsletters, and the financial press. Above all, Pope follows his instincts. "I'm a seat-of-the-pants kind of investor," he says.

Consider his recent decision to load up on Southwestern Bell Corp. The seed was planted when he went to Mexico in 1991 to finalize a joint venture with a Monterrey printing company. Since then, Pope has become increasingly bullish on Mexico's growth prospects, and he figured Southwestern Bell's deal to upgrade the nation's phone system would be a home run. So he bought 5,000 shares of the Baby Bell's stock in February at 65 per share. In weeks, the stock zoomed above 80.

"A GOOD FEEL." Surviving in a competitive industry such as printing has taught Pope the importance of state-of-the-art technology. That's what led him to Scitex America Corp., a Bedford (Mass.) maker of printing systems. Graphic Industries uses Scitex products to touch

up photographs and enhance color images. "They're the best at what they do, and I know they're the best," says Pope, who started buying Scitex stock in 1991 when the stock was just under \$30 a share. He increased his holdings to 5,000 shares in 1992, when the stock rose 20%.

Another recent Pope stock buy is Eastman Kodak Co., a big supplier of film products to his company. Despite the recent noisy departure of Kodak's chief financial officer, Pope sees a turnaround afoot. "Their management used to be old and stodgy like IBM and the U.S. government, but now they're changing the way they look at things," he says. He also likes Westinghouse Electric Corp., which owns a printing unit that competes with Graphic Industries. "I have a good feel for what they're doing," he says.

As a sideline, Pope keeps tabs on

a broad range of companies through a small Atlanta-based investment club that meets monthly. Pope's club has done well by purchasing local stocks such as carpetmaker Shaw Industries Inc. But Pope doesn't slavishly follow the club's lead. In mid-April, when Intel Corp.'s stock dived, the club sold its stake, but Pope held steady in his personal portfolio. Pope's reason for not selling: He buys lots of computers and knows how well-positioned Intel is. And besides, his "instincts" say the company is still a winner.

Pope's biggest recent winner is the company he knows best—his own. Graphic Industries' share price has doubled over the past 10 months.

By William Smith in Atlanta



POPE: HIGH ON HIGH TECH



BLANCO: "IF ANYBODY IS GOING"

PAT BLANCO

ALWAYS KEEPING AN EAR TO THE GROUND

In 1989, Pat Blanco walked into an Office Depot in Miami to buy photocopy paper and immediately recognized the appeal of the store. The selection of merchandise was far better than what she had seen at other office-supply stores, and so were the prices. A few more visits to the store and a trip to the public library to read up on the company convinced her that Office Depot was a winner. In August, 1990, she bought 200 shares at \$14 each. After a two-for-one stock split, she bought an additional 100 shares, and now her total investment is worth nearly \$18,000.



Office Depot Inc. is just one of a dozen stocks in Blanco's self-managed individual retirement account. By her own reckoning, the account earned a 55% return for the three years ending Dec. 31. That comes to 15.7% a year, vs. 10.8% for the Standard & Poor's 500-stock index and 8.9% for the average equity mutual fund. In fact, it was a bad experience with a mutual fund that made her take charge of her own investments. Says Blanco: "If anybody is going to use my money, it's going to be me." Despite some snappy returns, Blanco has no financial whiz. Nor does she have any formal training in the subject. The Miami resident is a registered nurse with a master's degree in public health who runs her own consulting firm, Healthcare Risk Control. And as the mother of a 13-year-old son and 7-year-old daughter, she has little time to track down investment ideas through data bases or research reports. So her ideas come largely from day-to-day encoun-

ters, such as Office Depot and Walt Disney Co., from watching *Wall Street Week* or *The Nightly Business Report*, or through business contacts.

Of course, these casual observations are just a starting point. Blanco next checks the *Value Line Investment Survey*, which includes data and ratings on 1,700 companies. What she's looking for is a red flag. "If *Value Line* says a stock is a bad idea, I don't buy it," says Blanco.

DOCTORS' ADVICE. Blanco also leverages her work time into investment time. She often visits with doctors, helping them to reduce their liability risks and insurance costs. "If I hear that a company is producing a good drug for cancer, when I'm in an oncologist's office, I ask, 'What do you think about drug XYZ?'" says Blanco. "If he says he has used it and is getting good results, I'll consider

it. [This research] is not very scientific, but it works for me."

Playing on her professional expertise, Blanco invested in HealthInfusion Inc., which provides in-home care to the infirm. She had worked for its managers in an earlier venture and thought highly of them. Besides, she adds, "home care is the future of health care." Her investment is down by one-third, but she's holding on. In addition, she thinks the company is a takeover candidate.

Is that an inside tip? Nah. From reading the business section of her local newspaper, Blanco learned that W.R. Grace & Co. had agreed to acquire Home Intensive Care Inc., a competitor. You don't have to be an investment banker to know that makes HealthInfusion a potential takeover as well. You only have to be an astute investor.

By Elizabeth Roberts in Miami

LENNART WIDTH

'I'M NOT RICH, BUT I'M COMFORTABLE'

The year was 1956, and Lennart Width, 37, was working in a Seattle-area lumberyard to support his wife and two sons. So when two church bonds came due, he might have been tempted to stick the \$150 in the bank. Instead, he bought the stock of a liquor manufacturer, Brown-Forman Corp.—and watched the shares triple in two years. From then on, Width was hooked.

After half a lifetime of buying 15 or 25 shares each month, Width boasts a portfolio worth about half a million dollars. Now 74, Width is a living example of how shrewd investors can provide a nest egg for themselves even when they come from the humblest circumstances. "I started with nothing," says Width. "Now, I'm not rich by any means, but I'm comfortable. I don't have to count pennies or dimes or nickels. I don't have a budget. I buy what I want when I want it."

Width also epitomizes the virtues of investment clubs as a resource for neophyte stock-pickers. In 1958, he formed a club with 22 other men that he had met through the Lions Club. His initial group pooled a total of \$300, each contributing \$10 to \$30. "Before that, I thought only people with immense wealth could get into the market," says Width.

The club's initial foray into investing was less than promising. The members found what seemed like the investment

of the century: a company called Granco that was trying to put televisions into the backseats of cars. Alas, the company went bust, and the stock collapsed. But the club persisted with other stocks and eventually prospered.

The clubs are less investment vehicles than they are guides for members' personal portfolio-building. For Width, the club provided an invaluable education.



WIDTH: A NEST EGG WORTH HALF A MILLION

Among other things, the clubs give members "stock selection" forms to fill out for each stock. On one side, investors plot out the sales, earnings, and stock price over the past 10 years. On the other side, they plot the growth rate of earnings before taxes and book value relative to earnings. Using these numbers, an investor determines a price at

which to buy, hold, and sell each stock.

Width's other tools of the trade are equally simple. He subscribes to *Investors' Business Daily*. He drives to the public library and looks up stocks in *Standard & Poor's Register* and *Value Line Investment Survey*, photocopying relevant pages. He spends a half-hour daily tracking about 38 stocks on paper.

Width's biggest recent coup was Clearly Canadian Beverage Corp., a Vancouver (B. C.)-based sparkling-water company. He first heard of it while in

Toronto in 1988 for a trade show called the World Federation of Investment Clubs. He stopped at the company's booth, sampled the bubbly, found it refreshing and tasty, and listened to the young beverage maker's ambitious growth plan. At the time, the company had only penetrated half the 50 states, with a plan to expand overseas. "I normally don't go in for new issues, but I said O. K.," says Width. He bought the stock, and in 18 months it tripled. But most of Width's stocks are larger com-

panies, such as Merck, Nordstrom, and First Interstate Bancorp.

Width is retired, but you won't find him on the golf course. He volunteers two hours a day with a local senior citizens' center, where he helped form a second investment club that now bulges with 55 members. And he conducts frequent seminars in Seattle on how to invest in stocks. His favorite advice for dealing with brokers: "Get a second opinion—your own."

By Dori Jones Yang in Seattle

PHIL CARLSON

MASTERING THE BOND UNIVERSE

Individual investors have typically bought bonds for safety and predictability and have viewed them as the ultimate buy-and-hold investments. But professionals often trade bonds with abandon, like Sherman McCoy, the self-proclaimed "master of the universe" in *The Bonfire of the Vanities*. Phil Carlson, a school social worker and Christmas-tree farmer from Hopewell Township, N. J., is an independent investor who trades 10 rather than 10,000 bonds at a time, but he's nonetheless a master of his universe.

Carlson, 49, plays the bond market with aplomb, even investing in the bonds of troubled and bankrupt companies—and he chalks up some admirable results. Just look at daughter Cynthia's college fund. Starting with \$6,000 when she was born 17½ years ago, Carlson ran that up to about \$100,000. That's a 17.4% average annual return. That money should enable Cynthia, who'll enter Cornell University in the fall, to pay for an Ivy League education. Carlson also started with \$6,000 when daughter Cathy was born 16 years ago. That fund now has \$60,000—a 15.5% average annual return. And of course, Carlson also manages the personal funds for him and his wife, Carol, a writer and editor.

GOOD JUNK. Carlson has been following the stock market since he was a teenager, but he gravitated to bonds because he likes the more predictable returns. "Management can squander the stockholders' money," he says, "but they have to pay back the bondholders." But that doesn't mean settling for single-digit yields.

Carlson often buys junk bonds, but unlike many masters of the market, he never buys at par. His biggest score came in the early 1980s, when Chrysler



CARLSON: HIS BIG COUP WAS CHRYSLER JUNK BONDS

Corp. teetered on the edge of bankruptcy. He bought bonds issued by Chrysler Financial Corp., the auto makers' finance arm, for 30¢ on the dollar. The pros were dumping the bonds like mad, but from his extensive reading, Carlson knew that the bonds were backed by auto loans rather than Chrysler's credit. Eventually, the bonds paid at full value—a triple—and they never missed an

interest payment.

A few years ago, when Chrysler was beginning to look shaky again, Carlson once again bought Chrysler financial bonds. By this time, they cost him about 70¢ on the dollar. Still, he recently sold the bonds at a little over par, for a 40% capital gain. And don't forget the interest, too. Carlson also scored with junk plays in Bally Manufacturing, Public Service Co. of New Hampshire, and most recently U. S. Home. Of course, he has had his losses as well, in Trump Tax Mahal Funding, Trump's Cash Funding, and Resorts International.

Bonds also appeal to Carlson because he can quantify his payoffs and chances. "Let's say there's a 50% chance of a company surviving, and you can buy at 20," he explains. "The way I see it, if the company fails, I've lost 20, but if it survives, the bond pays off at 100, and I get \$5 for every dollar I put in."

The bond market demands even more patience than the equity market. Corporate rate bonds are far fewer in number than stocks, and many of them are locked up in pension funds and rarely trade. That means Carlson can't always get what he wants. "You put in an order for 100 bonds, and maybe you get two when you

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call and wait for the others," he says. Carlson notes that you can always increase the bid to draw out more sellers. But if you pay too much, he warns, you will crimp your returns.

Although he prefers bonds, Carlson sometimes buys stocks as well. He's a strict contrarian, looking for out-of-favor companies rather than hot-growth stocks rocketing up the charts. He re-

cently purchased Johnson & Johnson, which he thinks has been pummeled because of fears of what President Clinton's forthcoming health-care plan might do to its business. "In retrospect, these fears are usually overdone," he says.

To keep up on his investments, Carlson reads financial newspapers and magazines and all the reports from the companies, including the regulatory fil-

ings as well as glossy annual reports. "The first time I read it, I may understand nothing," he says. "By the second or third read, I see what's going on. Many investors don't have the pluck or persistence to pore over financial statements well into the night. But then again, not many of them get Phil Carlson's results."

By Jeffrey M. Laderman in New York

QAMAR ZAMAN

A FINGER ON THE PULSE OF THE IPO MARKET

Qamar U. Zaman is a hematologist in Cumberland, Md., a bucolic community 140 miles west of Baltimore. But when he's not tending to the sick, Zaman is elbow-deep in one of the riskier areas of the stock market—initial public offerings. Zaman is no gambler, but he has beaten the house consistently for nearly a decade. He's an example of how individuals can do well in sophisticated realms of investing—if they conduct diligent research.

Zaman has bought and sold hundreds of IPOs and now holds about 50, checking their prices as often as three times a day by fax. "One has to watch carefully," he says. "They're very volatile."

How volatile? New stocks can double in a day—or shrink by half. When Cisco Systems Inc., a Menlo Park (Calif.) computer outfit, went public in early 1990, Zaman bought 100 shares for \$18 each. Now, after numerous splits, Zaman holds 800 shares worth about \$50 each—meaning his investment has grown more than twentyfold. But Zaman has also seen a few companies go broke, taking his investment with them. Lately, he has watched his health-care holdings bounce around.

WAKE-UP CALL. Zaman, who came to the U.S. from Pakistan in 1976, got the IPO bug in a prosaic enough fashion—by watching TV. In the early Eighties, when new issues were skyrocketing, Zaman was dazzled by business-news shows reporting on big gains in such hot IPOs as Microsoft Corp. He had lost a bundle by practicing dollar-cost averaging with value stocks that seemed only to lose value. So he set up accounts with four brokerage houses, including underwriters of new issues.

Soon, a few brokers got to know him well enough to clue him in on promising upcoming offerings, getting him limited allocations of 100 or more shares of hot stocks at a time. He became such a good



ZAMAN: "ONE HAS TO LEARN WHEN TO CUT ONE'S LOSSES"

client that one broker now regularly reads him stock-market columns from early editions of New York newspapers most mornings at 7.

But Zaman does his own homework. He reads new-issues newsletters faithfully, along with the general press. Each night, he checks prices on the computer-service Prodigy, and he watches tapes of public TV's *Nightly Business Report* every evening. By early morning, he's directing his brokers to move him in or out of stocks. "He really works at it," says Robert S. Natale, editor of Standard & Poor's Corp.'s *Emerging & Special Situations* newsletter and a regular Zaman telephone contact.

Zaman's advice: Do solid research, and maintain sharp discipline. First, he dopes out which industries seem most promising. Then, he buys new issues in them. But he is careful to sell when they begin to descend. "If they are going down on big volume, that's a red flag for me. That indicates that some money-manager is selling," he says. "One has to learn when to cut one's losses, because they just get wider and wider." He'll quickly sell out if a stock drops a quarter below the offering price—a sure sign that de-

mand has faded—but he'll also hold promising stocks for years. He steers clear of IPOs that are priced lower than expected or that come out with fewer shares than expected—another sure danger sign.

SECOND CHOICE. Spreading out the risk is also crucial to Zaman. Although not averse to buying big, he is leery of brokers who offer big positions: That suggests slack demand among institutions that get first crack at IPOs. He also frets about brokers who try to force slop seconds on him, offering him shares only after trading has begun, when the price is up. Zaman also warns that an investor should put all his holdings in risky spots. "The most important lesson is to keep in mind how much you are willing to lose," he says.

Zaman, 43, manages to run his portfolio despite a busy schedule. Along with his bustling medical practice, he directs the oncology department at the local hospital. He even finds time to tend to a 3,000-volume collection of first-edition mysteries. But for Zaman, nothing beats the challenge of the biggest mystery around: Where's the next hot IPO?

By Joseph Weber in Philadelphia

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MANY UNHAPPY RETURNS

Rock-bottom rates have some pension funds short on reserves

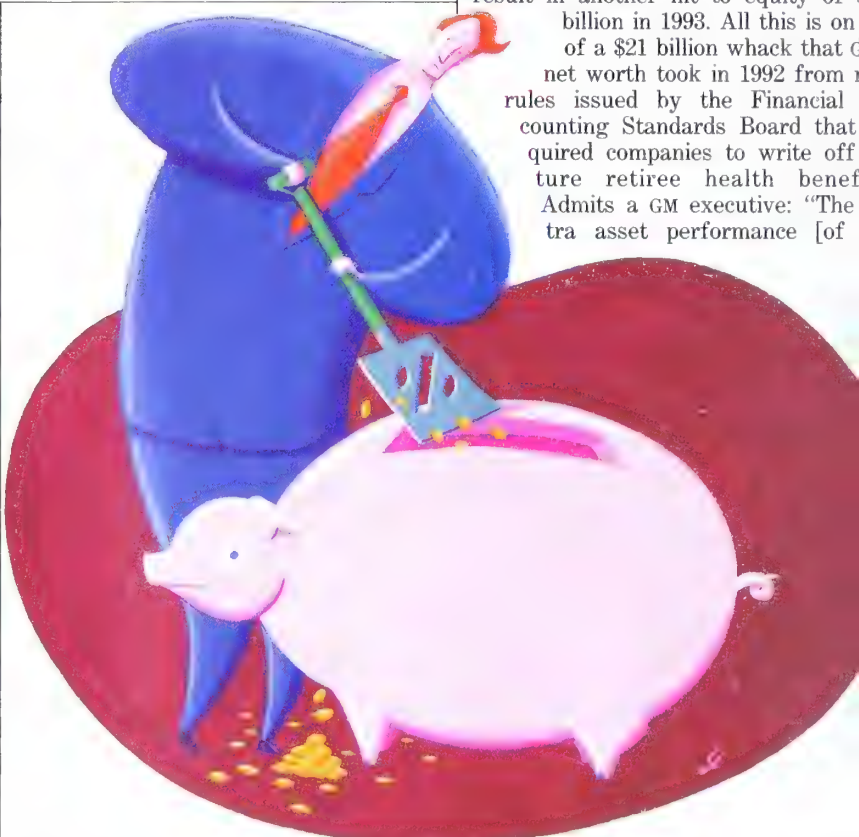
Many troubled industrial companies with threadbare pension funds and heavy employee retirement obligations have been doing a clever dance with the numbers. When falling interest rates began battering their funds' investment returns in 1990, they insisted that little had changed. They maintained the same rosy return assumptions they used during the double-digit 1980s. With the recession raging, that enabled companies to save money by skimping on payments into their pension funds.

Now the dance is over. On May 13, General Motors Corp. reduced its fixed-income return assumption for accounting purposes by a full point from 8.6%. The lower expected returns mean GM likely must widen its unfunded pension liability by \$5 billion, or 36%. GM, like a lot of strife-ridden giants, is under pressure from federal pension regulators to catch up.

GM is far from alone. Tenneco Inc., whose pension plan is in the hole by \$103 million, says it decreased its return assumptions from 9.2% to 8.9% over the past year. "But we haven't figured out yet what that means in terms of changing our liabilities," says Charles H. Hopkins Jr., Tenneco's director of benefits finance.

"PART OF THE GAME." Optimistic return assumptions have long been an artful labor relations tool for struggling industrial behemoths. In contract dickering with the United Auto Workers over the years, for instance, GM poor-mouthed its financial situation and argued that resources were better devoted to restoring the auto maker's market position than to larding the retirement fund, pension consultants say. GM bailed the union by highlighting the pension fund's stellar investment returns: an average 14.4% annually over the last 10 years, heavily propped up by the 1980s bull market. "Saying Wall Street will take care of UAW members was part of the game," says David Langer, a New York-based pension actuary.

Problems began developing in the mid-



1980s. Although long-term interest rates began falling in 1988, pension managers continued to assume ever-higher rates of return on investments (chart). The trend became glaringly apparent when the Federal Reserve yanked rates down radically to combat the recession—and the bellwether long bond's yield fell below pension funds' projected rates of return. True, pension funds don't depend solely on interest from fixed-income investments. Stocks make up a good half of the average pension portfolio. But stock market returns haven't been very generous in recent years, either. While cur-

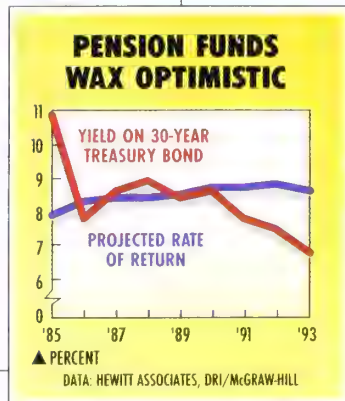
rent worries over inflation have lifted interest rates somewhat, few expect them to last long.

In acknowledging the impact of low returns, GM last year booked a \$2 billion charge against equity. Changed actuarial assumptions were partly to blame. The company belatedly conceded that workers were retiring earlier. In its May 13 announcement, GM admitted that rates stay low for the rest of this year, the unfunded liability will leap by more than one-third, to \$19 billion. That will result in another hit to equity of \$1 billion in 1993. All this is on top of a \$21 billion whack that GM's net worth took in 1992 from new rules issued by the Financial Accounting Standards Board that required companies to write off future retiree health benefits.

Admits a GM executive: "The extra asset performance [of

1980s] was covering up the problem that was brewing" with the humongous unfunded pension liability. Overall returns—stocks, bonds, and other investments—have been running at a 10% for the past six months, but it's far from clear that GM can sustain that.

Thus far, few of the corporations with underfunded pension plans have reported what impact the expected lower returns will have on them. Companies eventually must disclose changes in their investment return assumptions, as well as material pension plan changes that affect the balance sheet.



Some companies may try to tough it out, at least for the time being. NWA Inc., the parent of Northwest Airlines Inc., which has \$200 million in unfunded liabilities, has maintained its expected rate of return steady at 10.5%—a lot higher than many analysts think it can sustain. The company didn't return phone calls requesting comment.

But it seems certain that most companies with large, underfunded plans will have to follow GM's lead. "Steel, automotive, rubber, and airlines will get hit

If interest rates stay low, GM's unfunded liability could hit \$19 billion this year and lead to more equity hits

ard," says Jerry Y. Carnegie, a partner with Hewitt Associates, an employee benefits consultant. Bethlehem Steel Corp., for instance, has a \$1 billion unfunded liability, which is likely to be a drain on its earnings.

To be sure, corporations aren't the only organizations playing around with pension difficulties. Hard-pressed state and local governments have also dumped up their expected retirement and investment returns so they could reduce their pension contributions.

CONFESSIONS. Last year, New Jersey helped bridge its budget shortfall by changing its method of accounting, which enabled it to boost expected returns from 7% to 8.75%. The upshot: New Jersey and its municipalities reduced contributions from \$900 million to \$600 million. The New York City Employees' Retirement System made a similar move when it raised its investment performance assumption in 1990 by pegging future inflation at 4.5%, a rate many economists believe is too high. That enabled the Big Apple to shunt \$120 million toward its ever-clamorous workers' pay hikes.

No one likes to concede he's stealing from tomorrow to keep going today. For years, GM and its underfunding brethren have calmed worrywarts by, quite rightly, pointing out that their pension obligations will come due only gradually over coming decades and therefore are manageable. And indeed, GM has promised it will fill the hole in its pension promises by decade's end, when presumably its profitability will be restored. Other underfunders have made similar vows. Their legions of workers and retirees had better hope they're good for it.

By Larry Light, with Kelley Holland in New York, Kathleen Kervin in Detroit, and Stephen Baker in Pittsburgh

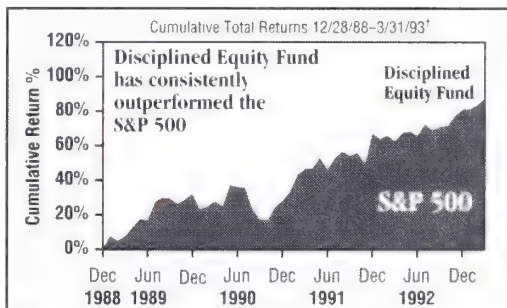
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Commentary/by Christina Del Valle

TIME TO TURN OUT THE LIGHTS AT THE SBA?

No one talks more often and more earnestly about the need to promote small business than Bill Clinton. So it came as no surprise when the President tapped savvy North Carolinian Erskine B. Bowles, 47, to head the Small Business Administration. An investment banking whiz who founded a leading small-business financing boutique, Bowles actually knows something about entrepreneurial economics. It's a refreshing change from the out-of-work political hacks who usually run the \$835 million SBA.

Bowles, who was sworn in on May 12, vows to make the SBA "efficient and effective," two things the agency has not been as long as anyone can remember. But the tide of history is against him. Clinton should have saved Bowles the trip to Washington and turned out the lights.

For decades, the SBA has been racked by scandals over everything from phony minority contracts to Wedtech-style influence peddling. Politics has pervaded its grants. And poor management has been an SBA hallmark. The result has been an agency "headed in the wrong direction," contends David K. Voight, a U.S. Chamber of Commerce official. The agency's role has been further marginalized by a new trend: The increasing willingness of private financial sources to provide small business with capital.

PORK AND PATRONAGE. When the SBA opened its doors in 1953, its mission seemed clear: make loans to small enterprises and represent the interests of small business on Capitol Hill. There have been successes. Among them: helping finance such future winners as Federal Express Corp. and Apple Computer Inc.

But the SBA hasn't lived up to its promise, partly since it has been too

busy dispensing patronage and pork. Presidents often put failed politicians at the agency's helm. Bowles's three immediate predecessors were all unsuccessful GOP Senate contenders. And consider the SBA's tree-planting program: The agency wants to abandon it, but Congress resists. Of the \$16 million spent last year to plant trees, \$1 million ended up in the congressional dis-

gram ran out of money, and an attempt to restore funding was shut down with the rest of the Administration's stimulus package.

Maybe that's just as well, since the SBA has a bad problem-loan predicament. While banks on average write off 1.4% of their loans, the SBA's 1991 losses came to 2.1% of its guaranteed loans, or \$322 million. In the SBA's de-

fense, its borrowers are riskier than most other bank customers, so a higher percentage of its loans are bound to go south. Yet section 7(a) isn't the only SBA initiative with a dismal record. Take the Small Business Investment Corp. program, which offered loans to 1,622 venture-capital firms from 1959 to 1992. Nearly a third of the companies have been liquidated at a cost to taxpayers of \$500 million. The SBA moved to overhaul the program in 1990.

MARKET FORCES. Fortunately for small business, the market is starting to provide solutions that could make the SBA unnecessary. The new SBA chief's own firm, Bowles Hollowell Corner & Co. in Charlotte, N.C., is one of scores of investment banking boutiques that target the small-business market. And after several years of tightfistedness, banks are responding

to the federal pressure to help small corporate borrowers. Bank of Boston Corp. is moving into this niche, with \$1 billion to lend. The SBA's credit budget amounts to only \$403 million this year.

Market forces may have made President Clinton's choice of an enterprising financier to head the SBA a bit academic. Bowles hopes to make the SBA a critical force in the small-business economy—and realizes the enormity of the job. But he remains optimistic. "This is a new day at the SBA," he promises. The question is, should there be a tomorrow?

Del Valle covers small business from BUSINESS WEEK's Washington bureau.

THE SBA'S TROUBLED TRACK RECORD

TRIVIAL IMPACT The SBA has loans out to a mere 23,000 businesses, a tiny portion of America's 20 million small enterprises.

CONFUSED LENDING CRITERIA Sure, it helped out a fledgling Federal Express. But it denied a loan to Ben & Jerry's in its early years.

RECURRING SCANDALS Its lending has been vulnerable to scams for decades. Most notorious recent borrower: Wedtech.

TOO MUCH PORK SBA projects too often target influential lawmakers' districts, and some don't even help business. Example: tree planting.

DATA: BUSINESS WEEK

OUT TO LUNCH

trict of House Small Business Committee Chairman John J. LaFalce (D-N.Y.) to replace timber lost to an ice storm. Says a LaFalce aide: "The program was there, and he sought to utilize it."

Worse, SBA programs themselves aren't much help to the small-business community. Look at the agency's best-known form of assistance, the 7(a) loan-guarantee program, generally meant for companies with annual revenues of \$3.5 million or less. It guarantees 85% of eligible loans, which totaled \$17 billion in 1992. But it reached only 22,000 companies, about 0.1% of all small businesses. The number won't rise anytime soon. On Apr. 28, the pro-

BY GENE G. MARCIAL

NINE WEST HAS PUT ON ITS DANCING SHOES

Nine West Group is a company Imelda Marcos would probably die for: It sells more than 100,000 pairs of women's shoes a day. Nine West's footwear is so popular that its shares have rocketed to 28 from 17½ when it went public on Feb. 2. Are the shoes—and the stock—just one of those passing fads?

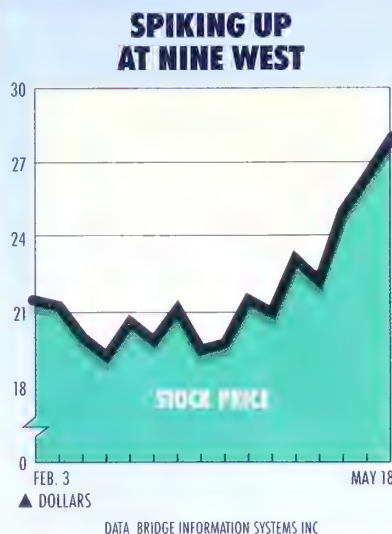
"Definitely not," insists a money manager at a large Boston investment company that owns nearly 5%. This pro thinks Nine West's Big Board stock will rise to the mid-30s over the near term and climb to more than 40 over the next 12 to 18 months, based on the company's better-than-expected first-quarter results and its rosy prospects over the next two years.

Analyst Brenda Gall, a first vice-president at Merrill Lynch, is also high on Nine West, which sells affordable yet high-quality, stylish women's footwear—casual and dress shoes and boots. Gall recently raised her 1993 estimate to \$1.50 a share from an earlier \$1.40, and her 1994 forecast is now \$1.70 to \$1.75 from a previous \$1.65 to \$1.70. She expects sales to jump to \$617 million in 1994 from 1993's estimated \$535 million and 1992's \$461 million. Gall says Nine West stands to boost its current 3% market share, since women's casual shoes are now cutting into athletic-shoe sales.

Profit margins are fat. Nine West's shoes and boots, which are priced between \$25 and \$140 a pair, are manufactured in Brazil by three manufacturing groups that Nine West's management has done business with for 20 years. Their cost-efficient factories, which have their own tanneries, employ 38,000 workers.

STEPPING OUT. So far, notes Gall, the company's 260 stores and other outlets, such as Macy's, have managed to meet or exceed management's goal of steady 15% compounded-annual-sales growth and an earnings rate of 20%. Nine West is planning to open 75 more stores this year.

Co-Chairman and President Vince Camuto, who owns 26% of the company, notes that Nine West has just scratched the surface of the \$14 billion women's dress-shoe retail market. "We won't rest until we have become a



dominant force in our end of the shoe business," he says.

But as big as the U.S. market is, "we are open to opportunities overseas," Camuto adds. He says several European companies have inquired about Nine West coming to Europe for a licensing pact or joint venture.

INSURING THOSE THE OTHERS IGNORE

Most property-and-casualty insurers are plagued with financial woes. But not Texas-based Gainsco. For the eighth year in a row, the company has posted record earnings, with an annual per-share growth rate of 55% last year. And while many insurance stocks have been on the ropes, Gainsco's shares have been out there swinging. The stock has jumped from 8 in early 1992 to 15½ on May 18. What's Gainsco's secret?

This "niche player" is in parts of the P&C business where others fear to tread, says investment manager Mary Sunderland at Skandia Investment Management, which owns nearly 5% of the stock. Gainsco takes on high-risk and nonstandard policies that are either too small or too specialized for other insurers to handle, she says.

Indeed, Gainsco's clients include owners of used-car lots and commercial vehicles, as well as coal haulers and building contractors. It does business mainly in Florida, Pennsylvania, Texas, and Virginia.

Gainsco has been able to raise rates in an environment that has stuck other insurers with soft insurance pricing. "Our insurance rates are firming,"

says Chairman and CEO Joe Macchia. The company focuses on widening profits rather than increasing its gross underwriting business. As a result, he notes, Gainsco's ratio of losses to premium income is 81%, vs. an industry average of 100%. (A ratio under 100% indicates an underwriting profit.)

Sunderland sees Gainsco earning 90¢ to 95¢ in 1993 and \$1.15 in 1994, vs. 1992's 77¢. Although the stock is trading at about 16 times Sunderland's 1993 earnings estimate, she expects it to hit much higher levels over the next 12 months.

ONLY ITS PRODUCT IS STERILE

Steris is one of those small, obscure companies that appears poised to burst into a big market. Why? It's the developer and maker of Steris 1, a portable sterilizing system that uses a low-temperature, liquid-chemical process to sterilize surgical instruments at operating rooms in clinics and hospitals, as well as in laboratories. Already, Steris has posted stellar results for the year ended Mar. 31: Sales jumped 106%, to \$26.6 million, and profits totaled \$2.5 million, or 31¢ a share, vs. a loss in 1992.

Analyst Lynn Malkes at Roney & Co. sees earnings rising to 51¢ in fiscal 1994 and 77¢ in 1995. "With projected 50% annual sales and earnings growth for the next two to three years, an exceptional balance sheet, and competition almost nil in its market, Steris is a compelling buy," she says. Malkes sees the stock hitting 25 in a year.

What's more, her estimates don't take into account a new market that the company expects to be in as early as this year: biohazardous-waste disposal. Steris has just formed a joint pact with Ecomed, a private company with a proprietary technology for destroying discarded materials such as hypodermic needles and surgical sharp instruments. Steris and Ecomed have developed a trash compactor that destroys and decontaminates this kind of waste. The remains from the Steris-Ecomed compactor can be thrown away as ordinary garbage, says Steris Chairman and CEO Bill Sanford.

"We are ready to break into this business as soon as the Environmental Protection Agency gives us the go-ahead," says Sanford. The market for this waste-disposal system could be huge, he adds, perhaps becoming as large as Steris' sterilizing business.

A WHOLE NEW CHIP GAME

IBM, AT&T, DEC, and HP jump into the open market

Protected by guards and hidden from roadside view, the headquarters of IBM's mammoth chipmaking operation—the world's largest—is a forbidding place. Until recently, the 216,000-square-foot Somers (N.Y.) building didn't even have visitor parking. But now, Somers executives are throwing open their doors, and, more important, are offering to sell rivals IBM's most advanced technology.

It's just one sign of a major plunge by IBM, DEC, Hewlett-Packard, and a handful of other electronics giants. After years of making chips only for their own products, these companies are seeking new revenues from sales on the open market. The chip business is already so competitive that the newcomers won't turn it topsy-turvy, but they could shake out a few weaker players.

The biggest impact is on the neophyte chip-sellers themselves. Early this year, IBM broke tradition and publicly began selling memory chips—including state-of-the-art 16-megabit chips that haven't even appeared in many IBM products yet. On May 10, IBM offered to build custom chips called application-specific integrated circuits (ASICs) that are at the core of everything from mainframes to advanced voice-recognition systems. Hewlett-Packard Co. is also pushing ASICs, while Digital Equipment Corp. is to add to its microprocessor sales on May 25 with a new line of communications chips.

NO HERMITS. These owners of "captive" chip operations used to feel that outside customers would distract them from serving their internal needs. Today, outside customers have become a necessity. In an era of increasingly open standards, computer makers want to make their new chip designs industry standards by selling them to as many competitors as possible. The discipline of selling outside can also help produc-

ers reduce costs and boost quality. And with tomorrow's chip plants projected to cost \$1 billion and up, computer companies can no longer afford isolation. Unless they offset the huge costs of running their chip factories, they face massive write-downs on existing plant investments, analysts say.

That's IBM's situation. With its computer hardware revenues growing at mere single-digit levels, IBM could not afford to fund chip R&D and operating costs that are rising 15% to 20% annually, says Jon E. Cornell, the executive organizing IBM's push into commercial chip sales. "This is not a hobby," says Cornell. "We have to do this." He says he's aiming for \$1 billion in outside chip sales within two years—up from zero last year and an estimated \$300 million in 1993—to customers in computers, com-

munications, and consumer electronics.

In some ways, the timing couldn't be better. The semiconductor industry is undergoing a sea change—away from generic chips and toward entire systems silicon that incorporate knowhow or scattered among several chips and software programs. After decades of building complex systems, computer companies are rich in such skills. They can take heart from the experience of American Telephone & Telegraph Co. It stumbled for years with generic chips, but then marshaled its systems skills and today has a newly profitable, \$2.5 billion operation whose merchant sales grew 3% last year to No. 20 in the world, according to market researcher Dataquest (box).

BIG ARSENAL. Because of such gains, semiconductor companies aren't taking the new entrants lightly. "We have to be concerned with them in the mid- to long term," says Kevin McGarity, senior vice president at Texas Instruments Inc. In Japan, Jim Sasaki, an NEC Corp. senior vice-president, says the entry of systems builders such as IBM and Hewlett-Packard into the chip market "is going to make life harder for smaller chip companies that don't have products with a lot of differentiation and don't have the same knowledge of systems."

Among the computer giants, IBM has the highest ambitions, with money-makers such as memory chips, microproc-



rs, and ASICs, of which it is estimated to be the world's largest producer. With state-of-the-art production lines in East Fishkill, N.Y., and Essex Junction, Vt., "IBM has some great technology," says Smith Data Systems Executive Vice-President David F. O'Connor. "We're talking with them, and we're very excited." Still, success in these markets will require huge changes in the way the captives make chips. High costs that used to be absorbed in the bookkeeping won't survive. Nor will idiosyncratic sizes and packaging techniques that drove the companies out of line with the chip industry. Already, changes are occurring: IBM bowed to the wishes of Motorola Inc., its partner on the PowerPC microprocessor, and agreed to design the chip with commercial software that Motorola knew well instead of using IBM's own design tools. The open market can be a challenge for newcomers. IBM lost the chance to sign up its first national chip outlet when Intel outmuscled it to win over chip wholesaler Anthem Electronics. They felt the return on Intel would be

ESCAPING CAPTIVITY

Some companies that are freeing their in-house chip operations to enter fast-growing commercial markets:



better short-term," says Intel director of distribution, sales, and marketing Dennis C. Reker. He calls the timing coincidental and not intended to thwart IBM's entry into commercial chip sales. IBM's Cornell says the company knows that it must expand its portfolio to interest wholesalers in carrying IBM products—an expensive proposition. Some rivals say the changes may be so daunting as to cause a quick retreat. Wilfred J. Corrigan, CEO at ASIC maker

LSI Logic Corp. in Milpitas, Calif., says assembling sales and technical help in ASICs will be slow and costly for IBM: "I think what IBM will find out is they ought to sell computers."

To prove Corrigan and other naysayers wrong, the newcomers are moving gradually, and with partners. IBM has made Motorola its key microprocessor partner. DEC is working with Japan's Mitsubishi Electric, and Hewlett-Packard with Hitachi and Samsung. HP is limiting its commercial ASIC work to 30%—enough, it figures, to defray the cost of building chips for itself. And DEC is coming to market with a narrow line of chips, mainly its bet-the-company Alpha microprocessor and a handful of logic chips that were developed for Alpha computers. Even IBM, the most aggressive newcomer, is starting small—beginning with just two centers where customers can design chips, vs. 50 run by LSI Logic.

The newcomers' outside sales aren't likely to rival those of Intel, NEC, Toshiba, or Motorola anytime soon. But IBM and the others are determined to give the commercial market a go. The truth is, they have little choice but to try.

By Gary McWilliams in Boston, with bureau reports

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BAD THINGS CAN HAPPEN TO GOOD CHIPS: A CAUTIONARY TALE

As IBM begins commercial chip sales, it might heed the words of an alumnus, Curt Crawford, now the vice-president of AT&T Microelectronics: "There's a great deal to be learned. Don't underestimate the difficulty of the job you're embarking on."

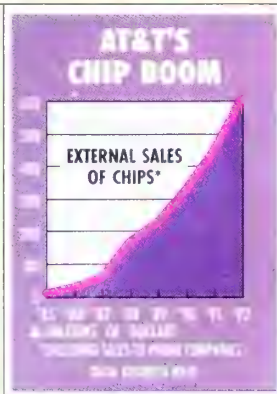
Crawford knows whereof he speaks. In the mid-1980s, predictions were rife that American Telephone & Telegraph Co. would soon become one of the world's biggest chip sellers. In 1985, AT&T announced memory chips and its own microprocessor, the WE32000. Both products were excellent—and both flopped. The memory chips were killed by price wars; the WE32000 was one in by Intel Corp. and Motorola Inc., which had mainstream microprocessor customers sewn up.

HOBBIT FORMING. Nor did it help that AT&T lacked any concept of chip marketing. Says Jack Beedle, president of n-Stat Inc., a chip research firm in Scottsdale, Ariz.: "They built the finest

chips in the world, then had telephone salesmen try to sell them."

Since then, AT&T has turned itself around by focusing on markets where it has an edge, such as communications. An example is the Hobbit chip that's going into the forthcoming Eo, a blend of cellular phone and pen-based computer. The Hobbit, whose speedy features were invented by AT&T Bell Laboratories engineers for phone switches as big as walk-in freezers, gets more speed per watt of power consumed than more complex microprocessors such as Intel's Pentium. AT&T has also zoomed in on chips for modems, cellular phones, and miniature hard-disk drives, where plucking signals from noise comes in handy.

AT&T has learned to sell as well. William J. Warwick, president of AT&T



Microelectronics since 1987, replaced nearly half the senior executives with outsiders. The newcomers built a 600-member sales force and a network of manufacturers' reps and distributors. Boldly, AT&T Microelectronics rebuffed chip orders from other parts of AT&T if the business didn't seem attractive. Crawford expects the unit to record its first-ever annual profit

this year.

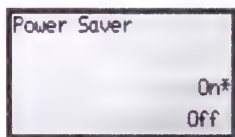
Even rivals are impressed. "It appeared in the past that they felt the best technical solution was good enough," says David French, a vice-president at chipmaker Analog Devices Inc. Now, he adds, "they're pretty aggressive about solving [customer] problems." Hey, IBM—listen up.

By Peter Coy in New York, with bureau reports

Lexmark announces printers designed for crisp blacks, smooth grays, and cleaner blues and greens.



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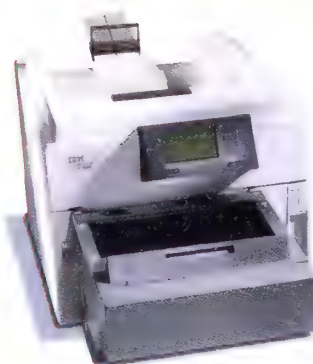
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HOW BUILDINGS THAT WHINE AND COMPLAIN



Mixing carbon fibers into concrete to make a beefier material isn't new. But research at the State University of New York at Buffalo has turned up a fresh reason for putting space-age fibers in concrete: They also add a dose of smarts, enabling buildings and bridges to warn of needed repairs.

In essence, the so-called smart concrete electrically groans when tiny cracks begin to develop. That's because the carbon fibers make the concrete 10 times as conductive as normal. Since even tiny cracks will affect this conductivity, and the change can be easily detected with standard electrical probes, repairs can be made on the cheap—before the cracks widen into visible fractures. Deborah D. Lung, head of materials research, estimates that a concrete mix with 0.2% fibers will boost costs by 20%. But this will be offset by lower maintenance costs, plus the need to use less material, since the fiber-reinforced concrete is stronger.

HEARING AIDS THAT KNOW WHAT YOU WANT TO HEAR

As America's baby boomers age, tomorrow's seniors may be more prone to hearing loss. That's because rock music often booms loudly enough to gradually but permanently damage hearing. So Michael Hoffman, an assistant professor of electrical engineering at the University of Nebraska in Lincoln, figured it was time for a better hearing aid.

The problem with most hearing aids is that they don't discriminate between the sounds that wearers want to hear and those they don't. So the voice of someone sitting across the table in a crowded restaurant gets drowned out by the surrounding cacophony. Hoffman's solution: make the hearing aid more directional—most sensitive to sounds coming from straight ahead. He found the key in the digital signal-processing (DSP) chips that plot the direction of blips in radar and sonar systems. While his prototype works, Hoffman says it will take late-1990s DSP chips to shrink it down to in-the-ear size. Using today's chips, it would be the size of a Walkman.

LIBRARY OF MUG SHOTS OF CANCER CELLS

Steven G. Morton has an entrepreneur's unshakable belief in his own ideas. To start Oxford Computer Co. in 1987, he took a second mortgage on his Oxford (Conn.) home and cashed in his retirement plan from a stint as a researcher with IBM Corp. His fixation was an "intelligent memory chip"—for which he won a patent in 1991—that combines data storage and processing on the same piece of silicon.

That technology is now taking off for such jobs as document scanning and sorting. But with Oxford still short of breaking even—until late last year—Morton roped in an unlikely backer:

the National Cancer Institute. He wanted to develop a way to print microscopic, ultrahigh-resolution images for use as optical memory chips. To catch the eye of the NCI, he proposed printing life-size images of cancer cells in Pap smears for use as a reference by lab technicians and researchers.

The just-completed Pap Smear Micro Library costs considerably more than the \$50,000 put up by the NCI. But now, Morton has the means to print images with unprecedented resolution: 25,000 dots per inch. By comparison, most laser printers operate at 300 dpi. Next, Morton wants to marry his supersharp micro-images with computer chips in systems that would automatically screen Pap smears—or diagnose metallurgical X-rays of aircraft parts.

SUPERCOMPUTERS: A WAY TO SCREEN OUT THE HYPE?

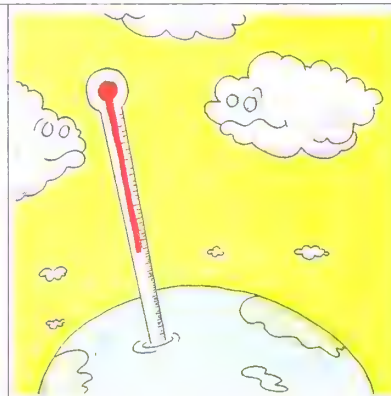
Never has the market for high-end computers been more confusing for the scientists and engineers who use them. A plethora of supercomputer hopefuls is flooding the market with unusual and incompatible designs—each of them claiming to offer superior performance. With bewildered buyers sitting on their hands, the competitiveness of the U.S. supercomputer industry is threatened by stagnation.

To inject some rationality and get things moving again, computer scientist David J. Kuck is lobbying federal agencies to create a "national performance center" that would cut through the hype and help customers evaluate the real performance trade-offs of competing designs. Kuck, who until recently headed the Center for Supercomputing Research & Development at the University of Illinois, figures the proposed center would cost less than \$2 million a year to operate. Individual agencies say they're interested—but only if they run the center. Kuck insists that won't fly, because the organization he envisions will require wide collaboration to spur progress.

USING SOUND TO TAKE THE OCEANS' TEMPERATURE

Scientists still can't say whether the greenhouse effect will substantially warm the Earth. Why? Because so little is known about how interactions between oceans and the atmosphere affect climate, says John L. Spiesberger, a meteorologist at Pennsylvania State University. But that will change soon.

A team led by Spiesberger has just won a \$10.4 million grant from the Pentagon's Advanced Research Projects Agency to take the temperature of the seas. Sound pulses will be sent racing thousands of miles under water while hundreds of floating monitors detect the passing pulses. Since sound travels at different speeds depending on the water's temperature, measuring the travel time from place to place provides an accurate thermometer. Experiments dating to 1983 have already proved that the concept works. When the first listening devices are set adrift next year, says Spiesberger, the effect "will be like putting satellites in space and looking at the earth for the first time."



BIG-GAME HUNTER BILL GATES

His target: The electronic heart of business



**PROUD PAPA:
MICROSOFT'S NT
LOOKS LIKE
A BORN
FRONT-RUNNER**

When Microsoft Corp. unveiled its Windows for Workgroups software, it put on a show with Broadway dancers. For the debut of a new data-base program, it treated 1,000 guests to champagne and shrimp at Caesar's Palace. Now, the software giant is ready to launch the most ambitious product in its 18-year history: Windows NT, a new-generation operating system. What's up for the May 24 debut? A seven-minute documentary, followed by a technical talk. Says Microsoft Vice-President Jonathan Lazarus: "This is a product for people with serious business needs."

Serious business is right. Windows NT has been six years and \$150 million in the making. The operating system is

not only a high-budget product but a high-stakes leap onto new turf. Says Microsoft Chairman William H. Gates III: "It sort of defines how high the ceilings will be around here."

How high is up? If Windows NT clicks, it could extend Microsoft's reach from the world of spreadsheets and word processing to the electronic heart of big business—corporate jobs such as accounting, inventory management, and transaction processing that are now done on mainframes or minicomputers. Designed for the so-called client-server networks that are capable of such tasks, it's the company's first operating system that will run on different types of computers—not just PCs.

For now, however, Gates is playing

down expectations. He acknowledged that it will be a big challenge for Microsoft to convince global corporations that NT can run their critical operations, even their entire companies. After prospective buyers will be asked to switch to a newcomer from such entrenched suppliers as IBM, Novell, Hewlett-Packard, and Sun Microsystems.

They all sell operating systems that already do much of what NT promises (table).

"Microsoft has no track record in this market," says R. Pieper, president of Unix System Laboratories Inc., an operating-system developer that is being acquired by Novell Inc.

Still, NT is stirring up a cloud of excitement. First off, like Microsoft's MS-DOS, which can handle only 16 bits of data at a time, Windows NT takes advantage of the powers of 32-

microprocessors. In addition, it includes built-in security features and "multitasking," the ability to run many applications at once. NT also sports the same easy-to-use look of regular Windows. The resulting 4-million-line program is four times as big as any other Microsoft offering. It's the handiwork of a 200-person team headed by David N. Cutler, the father of Digital Equipment Corp.'s VMS operating system.

DOUBLE PLAY. All this makes Microsoft a serious contender for client-server systems, in which networks of desktop computers get data and programs from host machines known as servers. To play in this market, Microsoft will sell two versions of NT. The desktop edition will cost \$495 (\$295 for current owners of Windows or IBM's OS/2). An "Advanced Server" edition lists for \$2,995 but is being offered at \$1,495 for the first six months.

But even the most ardent NT fans are planning a slow conversion. Bill Bunch, a systems administrator for stapler maker Stanley-Bostich Inc., has been testing desktop NT for seven months and calls it "a killer. Gates has his head screwed right with this one," he says. Still, Bunch is being cautious about installing NT on the company's 200-plus PCs. One reason is cost: He doesn't want to pay \$400 per PC to upgrade to NT requirements of 12 megabytes of memory and 75 megabytes of disk storage. So Bunch will buy only "several" copies.

Some potential buyers just don't want to be the first to try out brand-new goods. Microsoft says it's stamping out NT's bugs and will ship finished versions of the two new programs within 90 days. But many customers foresee

THE RACE IN ADVANCED OPERATING SYSTEMS

	NT	OS/2	UNIX	SOLARIS	NEXTSTEP
KEY SUPPLIER ►	MICROSOFT	IBM	NOVELL'S UNIX SYSTEM LABS	SUN MICRO-SYSTEMS	NeXT
COPIES INSTALLED ►	80,000 TEST COPIES	2 MILLION	24 MILLION*	800,000	50,000
CHIPS ►	486/PENTIUM DEC'S ALPHA MIPS	486/PENTIUM	486/PENTIUM H-P WORKSTATIONS IBM'S RS/6000	486/PENTIUM SPARC	486/PENTIUM MOTOROLA 68000
NUMBER OF APPLICATIONS ►	1,000	1,200	18,000	7,500	620
INCLUDES SUN VERSIONS					

DATA: DATAQUEST INC., COMPANY REPORTS

ing haul. "It's likely to take several years for people to trust it," says David Emmett, information director for Dunkin' Donuts Inc.

Gates knows that customers are cautious. "We have modest initial expectations for Windows NT sales compared with the overall sales of Windows," he says. Gates aims to sell 1 million copies—mostly the desktop version—in the next 12 months. Those are healthy sales in the world of workstation and server software but skimpy compared with volumes in the PC world. Paul Johnson, an analyst with First Boston Corp., figures next-year NT revenue will be \$450 million—\$250 million from the desktop and \$200 million from 100,000 server units.

That revenue won't make or break Microsoft, which is operating at about a billion annual rate. But a slow start could give competitors a chance to head off NT. On May 18, for example, IBM stepped the ante by introducing an improved version of its 32-bit system, OS/2. It handles multimedia—mixing video and digital sound. And since OS/2 can run on PCs with eight megabytes of memory, IBM is aggressively pursuing the larger desktop market rather than servers, says Lee Reiswig Jr., Big Blue's president of Personal Software Products. To fight Microsoft, he's pricing OS/2 at \$79 for now, while launching a series of attack advertisements branding it as a "Nice Try." Says Reiswig: "I think we can win this war."

BEATING THE HIGH ROAD. Meanwhile, Steve Jobs is recasting NeXT Computer Inc. as an operating-systems supplier for many types of computers. On May 18, NeXT will introduce an Intel-compatible version of its NextStep software, which has become a favorite of advanced programmers.

Microsoft's biggest challenge will be knocking off Unix, which is sold by dozens of suppliers. Sun Microsystems Inc. is trying to catch NT shoppers with a PC version of its Unix, Solaris. And Novell, which already has 70% of the market for PC-networking software, is expected to complete its \$350 million acquisition of Unix Systems Labs in June. USL

sells the "source code" on which various versions of Unix, such as Solaris, are based. Univel, a joint venture between USL and Novell, sells a \$250 desktop package called UnixWare for personal computers based on Intel Corp.'s chips. Says Univel President Joel Applebaum: "NT is not a shoo-in."

No, but it's a born front-runner. Some 59% of 200 big corporations surveyed by the Business Research Group in Newton, Mass., say they are likely to implement NT. That compares with 39% for Unix and 36% for IBM's OS/2.

Microsoft's \$20 million budget for spreading the NT gospel won't hurt. So far, it has signed up more than 65,000 applications-software developers, more than 200 distributors, plus more than 20 computer makers. Explains Phillip E. White, chief executive of data-base software maker Informix Corp.: "Microsoft had the last big wave, Windows, and everybody wants to catch the next big one." Operating-system surfing is serious business indeed.

By Kathy Rebello in San Francisco, with bureau reports

COMPUTERS

SUN VS. THE HEAVYWEIGHTS: DOES IT HAVE A SHOT?

In the huge commercial market, false moves can be fatal

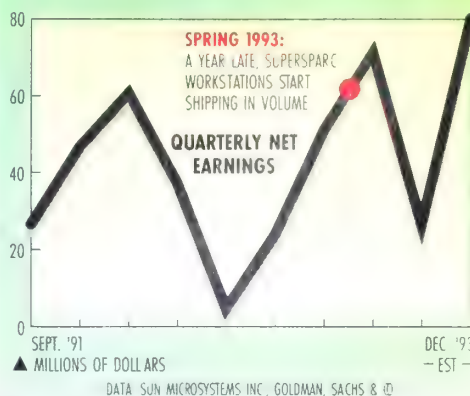
You could call it a watershed event in Sun Microsystems Inc.'s nine-year history of pulling elaborate April Fool's Day pranks on its executives. This year, Sun engineers managed to shoehorn co-founder Andreas V. Bechtolsheim's blue Porsche Carrera cabriolet into his corner office. Inside the car sat an aquarium with live sharks circling a bubbling Sun workstation.

The scene offered an apt, if unintentional, reminder of the treacherous future Sun faces. For years, the Mountain View (Calif.) company has strived to bust out of the \$10 billion market it leads: networks of sophisticated workstations for engineers and scientists. Even as that market was blasting off in the 1980s, and Sun along with it, Chief Executive Scott G. McNealy often spoke of a larger goal: making Sun a major force in today's \$100 billion commercial computing market. Businesses, he argued, would someday wake up and see how they can save money and work

smarter by shifting from mainframes to desktop machines.

McNealy's prediction is coming true: Sun is breaking out of its engineering niche and selling workstations to all sorts of businesses. But as it moves into the commercial market, Sun enters waters where much bigger fish swim—lunkers such as IBM, Hewlett-Packard, and Digital Equipment. As a consequence,

SUN'S SUPERSPARC SAGA



Information Processing

Sun now faces the battle of its life.

Not only are the industry giants ferociously defending their businesses in minis and mainframes, they're mastering Sun's game of workstations and networks. Some have even pulled ahead of Sun in cramming more power into desktop machines. And more players are joining the fray. For example, IBM and Apple Computer next year plan to ship workstation-class personal computers based on the PowerPC chip that Motorola is building with IBM.

But the deadliest threat of all is the coming wave of computers using Intel Corp.'s Pentium microprocessor and Mi-

The second thrust is a software torpedo called WABI (Windows Application Binary Interface). Introduced May 5, the program is designed to make most Windows-compatible programs run unaltered on Sun and other Unix computers. Sun hopes that many other suppliers, also alarmed by Microsoft's growing dominance in desktop computing, will rally around WABI and make it a standard. If it works, Windows compatibility will no longer be Microsoft's trump.

In trademark fashion, McNealy brushes off Sun's many challenges with a wave of his hand. His competitors, he says, are "at their weakest ever," and

The workstations finally began shipping recently, but net income for fiscal 1994 ending next month, is expected to fall 12%, to \$153 million—the second consecutive profit decline. In turn, Sun's stock has sunk 31%, to 28%, since January.

What's more, the SuperSparc machines still trail competing models from HP, IBM, and DEC in sheer speed. Even Sun concedes that it has lost some technical business to HP, its closest rival. In response, it's promising even faster chips, called UltraSparc, for 1995—a long way off and no sure thing, given past delays. In the meantime, it's designing computers that can harness more microprocessors in one box than most rival machines can. Analysts figure that such multiprocessing designs will dominate future computing.

Despite the setback, Sun is gathering momentum in the commercial market. About 26% of its sales are to commercial customers, company officials say. Federal Express uses them to monitor packages, and Northwest Airlines relies on Sun workstations for ticket accounting. Dunkin' Donuts Inc. stores will use Sun systems to control inventory. The workstations' main appeal over PCs is higher performance and more robust software. Charles Schwab & Co. plans to install as many as 4,000 Sun workstations to handle stock transactions.

ALREADY LEAN. But Sun has one more big hurdle to leap before it can compete with the new wave of \$5,000-and-under PCs using Intel's Pentium chip and Windows NT. To compete, it will have to cut prices—most Sun models still sell for \$10,000 and up—but it is already one of the industry's leanest manufacturers and has little fat to trim. Sun's operating margins are no higher than those of PC makers, partly because it has a direct sales force to call on business customers. Says market research Dataquest analyst Lisa Thorell: "The real wallop on the head will come from Compaq and Dell"—two leading PC makers. One solution may be to rely more on resellers to keep costs down. On May 3, Sun established a group that will funnel more business to its 1,000 resellers.

Still, McNealy's biggest job remains convincing customers that they can replace their IBMs and other mainframes with Sun systems—as Sun itself hopes to do by 1995. It's an uphill battle: Sun was distracted by the SuperSparc problem and lost marketing momentum. Admits McNealy: "Now it's time to go out and make some money and noise in the market." Otherwise, the company has made sushi out of its competitors for years may find the sharks closing in.

By Robert D. Hof in Mountain View, Calif.



CEO McNEALY: MICROSOFT'S WINDOWS IS JUST "FROSTING ON A ROAD APPLE"

crosoft Corp.'s Windows NT software (page 84). That combo will finally lift PCs into the same performance range as Sun's best workstations—and still run thousands of Windows-compatible programs. If the Intel-Microsoft duo sweeps workstations and networks the way it has PCs, Sun's prospects could be bleak.

TWO FRONTS. Sun is no sitting duck, though. It has a two-pronged counterattack under way. First, it's about to ship a version of its Solaris operating system for PCs, hoping to lure sophisticated commercial customers and software developers into its camp. The claimed advantage over Windows NT: years of shake-down in high-pressure, networked applications. "It's going to be a long time before Windows NT can deliver what Sun delivers today," says International Data Corp. analyst David Smith.

Microsoft Windows is just "frosting on a road apple." Further, McNealy insists, "we're doing all the right things," from staying lean to refreshing Sun's entire product line. Indeed, a profitable company with sales expected to grow 20%, to \$4.3 billion, in the fiscal year ending June 30, that outsells its next three rivals combined, and that hoards \$1.1 billion in cash isn't in immediate peril.

Yet, McNealy and his executives realize Sun is extremely vulnerable right now and can't afford any slip-up. The company is only just recovering from the last hiccup—a costly one-year delay in shipping a workstation family based on a new microprocessor called SuperSparc. While the company worked to complete the ambitious design, it lost \$2 million a week in profits, estimates Chief Financial Officer Kevin C. Melia.



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ARTHUR
ANDERSEN





PIER 1 SET UP SHOP IN LONDON LAST FALL AND PLANS TWO OUTLETS IN PUERTO RICO BY 1994

A PIER 1 IN EVERY PORT?

The retailer will push its global wares in 250 stores overseas

Many dream of touring the globe, but few get the chance. Those who don't can go to Pier 1. For 31 years, the retailer has helped America's armchair travelers fill their homes with colorful, handmade knickknacks and furniture from 44 countries. Shoppers can find a carousel horse from Thailand, Italian dinnerware, or rattan chairs from Indonesia.

Now, America's largest purveyor of home furnishings is taking its knowhow overseas. It set up shop in Britain last fall and plans two stores in Puerto Rico by yearend. Mexico and Central and South America are on the list for 1994. Eventually, Pier 1 Imports Inc. wants to sell in the Far East, where this summer it will open an office to support the expansion. All told, Fort Worth-based Pier 1 plans to have about 250 stores outside the U.S. and Canada within seven years, accounting for an estimated 5% of sales and 10% of operating profits.

UNIQUE FORMULA. Pier 1's move makes sense, considering its slowing growth at home. For the fiscal year ended Feb. 27, sales were up only 7.3%, to \$629.2 million, vs. double-digit growth rates in the late 1980s (chart). Profits were down 12.5%, to \$23 million, because of losses at a unit that has since been sold. And al-

though Pier 1 plans to add 300 outlets to its 608-store network in North America by the end of the decade, opportunities are dwindling.

But even world-seasoned Pier 1 faces big challenges in going abroad. Exporting a shopping experience is tough. Few American stores have tried, and most foreign retailers have bombed in the U.S. "Being able to replicate [retailing] concepts around the world has been more difficult than anyone thought," says Robert Kerson of retail consultant Levy & Kerson Associates Inc.

The folks at Pier 1 think their formula will travel because it's unique. Pier 1 stocks unusual items, prices them moderately, and displays them in an integrated fashion, so shoppers feel as if they're in a sort of U.N. of *tchotchkes*. For instance, blue Japanese sake cups are stacked not with other goods from Japan but with blue European plates.

In foreign markets, Pier 1 must make sure it's not

bringing coals to Newcastle. So, in the Far East and Europe, it plans to stock posters of U.S. pop heroes and other Americana. Asian stores won't get chachas, which are popular in its U.S. stores, but Native American artifacts instead. In Japan, furniture will be built smaller to suit tiny apartments.

CHEERFUL CLUTTER. Pier 1 certainly has the financial wherewithal to go global. Its debt load is only 35% of capital, and it has \$74 million in cash. And its store overhead tends to be low, partly because its display style is cheerful clutter rather than expensive elegance.

CEO Clark A. Johnson, who was a partner with pro golfer Jack Nicklaus in MacGregor Golf Co. before joining Pier 1 in 1985, isn't taking any chances. In most countries, the retailer will work through joint ventures and licensing agreements. Even in Britain, where it plans six more stores by yearend, Pier 1 moved cautiously, buying a 50% interest in a London-based retailer—already conveniently named The Pier. Its foreign stores sell merchandise similar to Pier 1's. But The Pier stocks more items that English customers seem to want. For instance, co-owner Alison H. Richardson says wardrobes sell well because of scarce storage in many British homes, and Indian textiles conjure fond thoughts of the former colony.

Johnson doesn't think he needs a partner in Puerto Rico, where he plans 13 to 15 stores over the next three years, because the market resembles Florida. There, Pier 1's 35 stores draw Cuban and Hispanic Americans with the same inventory used elsewhere in the U.S. But Johnson will keep careful track of what sells, because he sees the island as a stepping-stone to other Latin markets.

Figuring out what puts smiles on non-American faces is critical, because Pier 1's success depends more on local whims than local needs. "You can live the rest of your life and never go into a Pier 1 store, because we don't sell anything that you have to have," says President Marvin J. Girouard. Since the stores are

popular to shoppers' imagination, Pier 1 must learn what people in different cultures find exotic and clever. If it succeeds, the international stores will show what their U.S. counterparts do: satisfy the wanderlust that lurks in us all.

By Stephanie Anderson
son Forest in Fort Worth, with Ruth G. by in London





A promise to remain suitably grumpy until after the Sunday paper.

A promise to produce nickels from your ears upon request.

A promise for something to remember and something to remember me by.

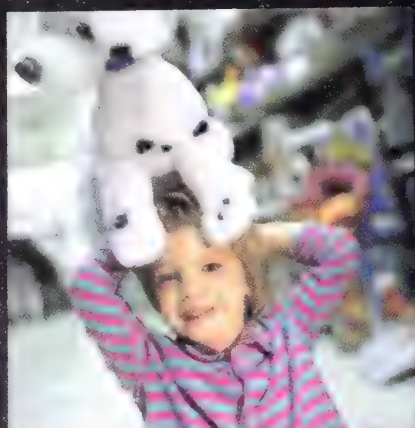
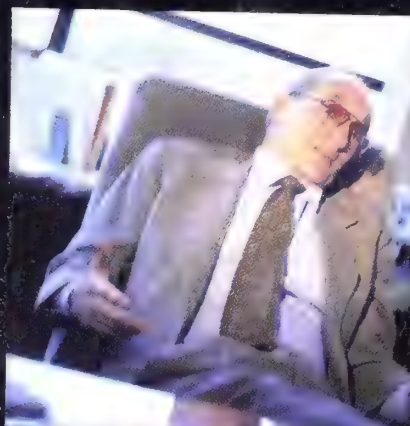
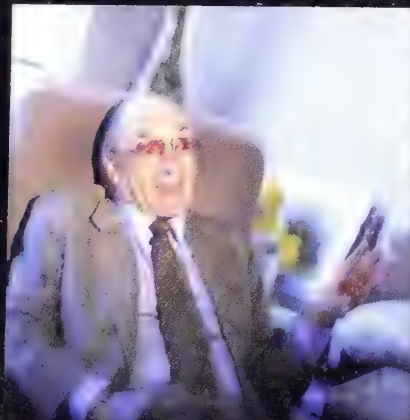
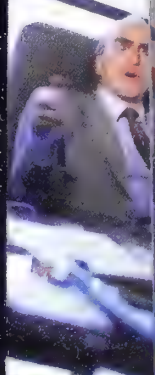
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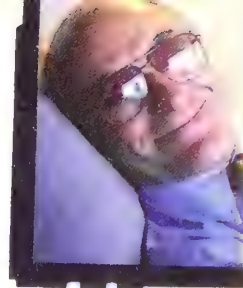
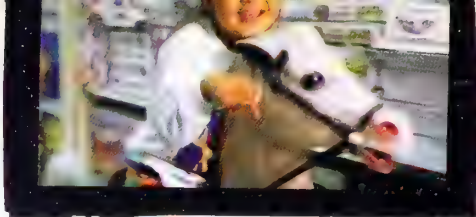
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Children have become so sophisticated. Today's five-year-olds always want the next big thing—and it always has to be more and more complicated. They come along and they say, "I gotta have." "If I don't get, I will die." They are our salespeople and their grandparents are our best customers.

about how they grow up and what they play with. I think that's terrific. It makes for one world.

I love to visit our stores and listen to our customers—just to find out what they want.

I was on a trip last week and I probably spent \$50 out of my pocket. That's because

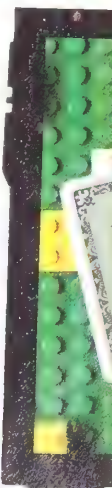
Five-year-olds make ruthless customers.

They can refuse their child anything—they can refuse a grandchild nothing.

We now sell virtually the same toys all over the world. So it stands to reason, if all these kids are playing with the same toys, how could they ever possibly fight with each other? There's a common thread

everything works with the American Express® Card. Hotels, restaurants, car rentals—they all accept the Card. So I don't have to walk around with much money in my pocket. And it's a great record of my trip.

Charles Lazarus
C.E.O. & Founder, Toys "R" Us





STRATEGIES

AFTER A U-TURN, UPS REALLY DELIVERS

The giant shipper has radically changed its corporate culture

Back in 1990, Big Yellow was thinking about firing Big Brown. Executives at Eastman Kodak Co. were intent on cutting the number of package carriers they used, and United Parcel Service Inc.'s bad attitude had placed it on the endangered list. "Every time we'd ask them about special services or discounts, I'd hear back the same thing: 'It's not in our best interest,'" says Terrance M. Golomb, Kodak's manager of worldwide transportation services. "Well, that's not what I was hearing from their competitors."

Nowadays, Golomb is hearing a different tune from UPS. Responding to his complaints, UPS placed a full-time service representative at Kodak's Rochester (N.Y.) headquarters. The package carrier is showing Kodak ways to cut its shipping bills. Even more astounding, UPS is offering Kodak discounts on big-volume shipments. "It's an entirely different company," says Golomb. Instead of firing UPS, he upped Kodak's business by 15%, to 50,000 packages a week.

Golomb isn't the only customer to feel

the effects of what UPS insiders call the velvet revolution at the Atlanta-based company. After losing business to such aggressive competitors as Federal Express Corp. and Roadway Package System, UPS Chief Executive Kent C. "Oz" Nelson has been overhauling the way the world's largest package carrier does business. Gone is the we-know-what's-best-for-you imperiousness that was UPS's hallmark for decades. In its place, UPS stresses customer satisfaction. Flexible pickup and delivery times and customized shipment plans are available to corporate clients. UPS also offers discount prices to volume shippers (table).

RESIDENTIAL RETREAT. What's more, the company, whose ubiquitous chocolate-brown trucks symbolized its dominance of the package industry in the early 1980s, has spent roughly \$2 billion in the past two years on new technology to keep up-to-the-minute tabs on shipments. And the transformation doesn't end there. In hopes of capturing more of the higher-margin commercial business,

UPS is doing what would have been unthinkable a few years ago: It's moving away from the residential deliveries that had been its bread and butter.

So far, the strategy has produced clear improvements. Some analysts reckon that net income at the employee-owned company should rise 4% this year on an about \$800 million, on a revenue increase, to \$1 billion. That may not sound great. But it's quite an accomplishment considering that UPS's core business—ground-based package delivery, has been flat for three years, while rivals have been increasing their market share. "It's awesome, given their size, that they grow as fast as they do," says transportation analyst

Paul R. Schlesinger of Donaldson, Lufkin & Jenrette Securities Corp.

Performing this kind of open-heart surgery on a company entails a great bit of risk. By emphasizing corporate shipments over home deliveries, UPS has lost business from catalog retailers. The company acknowledges that its volume of shipments from such retailers is down by 100,000 packages a day. And the new efforts at home have come at a time when UPS management has been struggling to fix the company's money-losing overseas operations. A recessionary slowdown, particularly in Germany, is restraining the growth of package volumes. Altogether, UPS has lost \$1 billion from its overseas operations since 1990.

Still, Nelson, 55, says he had little choice but to change what customers perceived to be UPS's aloof and rigid style. Rivals had been cherry-picking many of UPS's best customers. Roadway Package System, the

WITH RIVALS GRABBING MORE BUSINESS

ROADWAY PACKAGE SYSTEM

AIRBORNE EXPRESS

FEDERAL EXPRESS

REGIONAL CARRIERS

UPS

AVERAGE ANNUAL INCREASE IN PACK. VOLUME 1987-9

0 10 20 30
PERCENT

tsburgh-based unit of Roadway Services Inc., was particularly successful, thanks to such tactics as volume price breaks and innovations in tracing and billing technologies.

By 1990, with UPS's profit margins sliding toward 4% from nearly 7% in 1988, Nelson decided to act. A graduate of Ball State University who joined UPS as a salesman in Indiana in 1959, Nelson ordered a sweeping examination of UPS's business methods. He appointed four senior executives—marketing chief John J. Alden, international head Donald W. Hayden, engineering guru Charles L. Chaffner, and Chief Financial Officer Edna A. Jacoby—to conduct an intensive review of UPS's flaws and determine how to respond better to its rivals.

INFUL CHANGE. The first step was to beef up Alden's marketing staff at UPS headquarters, to reach out to customers. For years, the marketing team had consisted of just seven people—too few to handle questions from both existing and potential customers. By 1992, the staff had increased to 175 and was handling 6,000 corporate inquiries a year. Next came face-to-face interviews with 100,000 customers to find out what services and products they needed. One result: In February, UPS began offering a three-day guaranteed-delivery service, aimed at customers who want assured delivery but not necessarily fast delivery, it costs 10% less than second-day delivery.

UPS also invested heavily in new technology. To help trace shipments, drivers now carry a computer clipboard that digitizes the signature of the person receiving the package. And in February, drivers began transmitting real-time tracking information from their trucks to central computers using cellular-phone technology.

One element of UPS's new strategy has proven particularly wrenching: the decision to stress corporate business, even though home deliveries had been key to UPS's business since it was founded in 1907. But executives had to face facts: Delivering a pallet-load of VCERS

GIVING UP THE UPS ONE-PRICE FORMULA WAS WRENCHING. NOW, GM SAVES; GRANNY DOESN'T.

to a single store is far more profitable than delivering one of those VCERS to a rural home. To underscore this point, UPS abandoned its single-pricing formula in 1991. "We'd always prided ourselves on saying your grandmother paid the same price General Motors did," recalls Nelson. Now, GM gets a break; Granny doesn't. UPS has raised residential delivery rates an average of 11.4% a year since 1991. By comparison, commercial rates have grown only 3.4% a year.

The higher residential rates have many catalog retailers in an uproar. Some have taken their business elsewhere. Lillian Vernon Corp. in New Rochelle, N.Y., a catalog merchant that sells moderately priced gifts, has reduced its reliance on UPS from 86% of shipments two years ago to 53% today.

Overall, however, UPS's new pricing flexibility seems to be paying off. UPS has even attracted new business from some catalog merchants. This spring, Lands' End Inc. in Dodgeville, Wis., switched its overnight-air contract from industry leader Federal Express to UPS, as part of a larger negotiated ground-and-air agreement that held a rate increase down. "We're not counting on UPS making any mistakes," says FedEx Chief Financial Officer Alan B. Graf Jr. "We'll have to stay creative to keep our lead."

So far, the headquarters-driven overhaul of the corporate culture has met little resistance from managers and supervisors in the field. Retraining helped.

More than 500 managers were sent to Michigan State University's business school in East Lansing for week-long seminars, in which professors coached employees to think in terms of customer service. A more compelling reason for executive compliance was UPS's compensation plan. Each year, 15% of UPS's pretax profit is used to buy company stock that is distributed to entry-level supervisors on up. "We have 25,000 owner-managers who have virtually every cent they own invested in stock of this company," says Nelson. "They knew that if we didn't change, somebody would, and there'd go your life savings."

There's no public market for UPS shares, but based on what it pays to buy back shares from those retiring or quitting, the value of stock has risen at a compound annual rate of 23.1% in the past 10 years. That's meant quite a nest-egg for some. Nelson himself owns 356,853 shares, worth \$6.6 million.

DRIVER DRAMA. The new culture hasn't done much to improve sometimes rocky relations with the Teamsters, which represents 165,000 drivers and package sorters. Teamsters President Ronald Carey has long complained of the way UPS treats his members. For instance, some drivers are told to make 15 deliveries or pickups an hour, no matter what the traffic conditions. Carey doesn't rule out the possibility of a strike when the union's contract expires on July 31.

It will also take more than a customer-friendly attitude to help UPS's ailing business overseas. Package volumes keep rising in Europe, but the growth hasn't been strong enough to pay back UPS for the heavy up-front costs of building a network of offices and warehouses. There are some encouraging signs, though: UPS recently signed a contract with GM Europe to provide just-in-time delivery of auto parts.

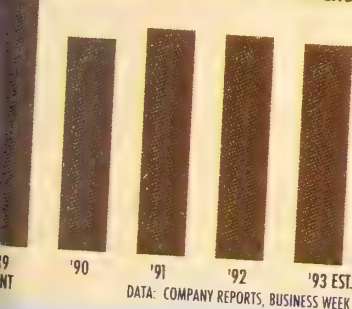
And there's no question that UPS is now in far better shape to deal with the tough market at home. In an era better known for FedExing than for UPSing, UPS may never again reign supreme

as it did a decade ago. Nearly every contender is stressing customer service and offering big discounts. Still, the freight industry is expanding. Shipment volume is growing by 14% a year in the U.S., says Colography Group, a market researcher. As long as it can keep its customers satisfied, there will be plenty of room for Big Brown to grow.

By Chuck Hawkins in Atlanta, with Patrick Oster in Brussels, and bureau reports

...PROFIT MARGINS AT UPS ARE FLAT...

NET INCOME AS A PERCENT OF REVENUES



...FORCING A SHAKEUP IN STRATEGY

COMPETITIVE PRICING No-discount policy abandoned in favor of negotiated rates. Big shippers receive volume discounts.

CUSTOMER SERVICE Instead of being told when to have their packages ready for pickup, high-volume shippers get customized pickups and deliveries.

IMPROVED TECHNOLOGY Computerized tracking system upgraded in February with cellular technology connecting delivery trucks with central computer.

MARKET FOCUS Moving away from residential deliveries, once its bread and butter, in favor of more profitable commercial business.



Macintosh
Color Display

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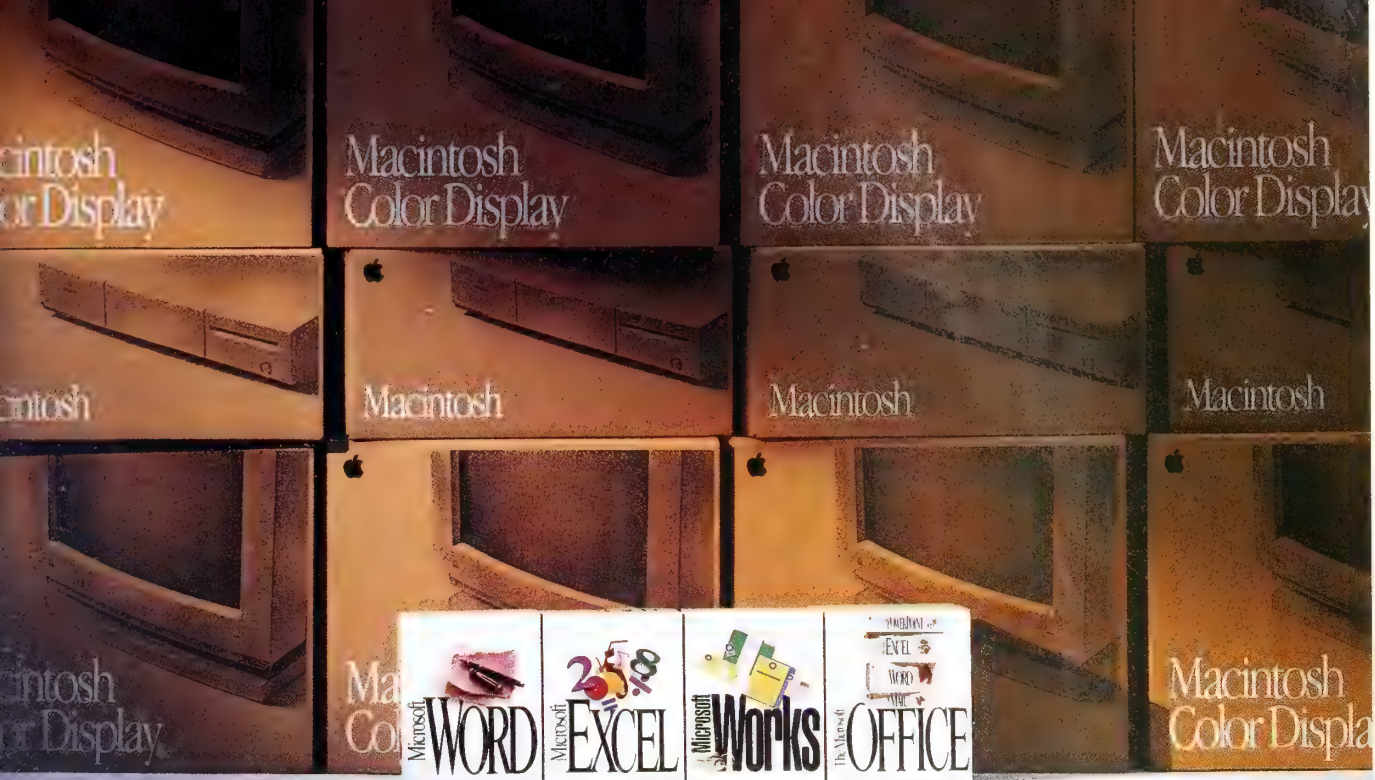
Macintosh
Color Display

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Macintosh
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**WHAT IS IT THAT MAKES
USING THE MACINTOSH SO EASY?
IT'S THE LITTLE THINGS.**



You've got letters, sales charts and those presentation slides or Friday that still aren't finished. So you're thinking it's about time to simplify your life with a computer. Good call. Maybe you're thinking Macintosh. But you might not realize that a big part of what makes the Mac so easy is the software programs you choose.

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And we didn't do it alone. We picked the brains of millions of Mac users. We gathered your suggestions. We watched how you work. We even created a Wish Line

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And most importantly, our products are all designed to work flawlessly together. Once you've mastered one, you've already begun to learn them all.

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Making it easier

WHO'S AFRAID OF HEALTH REFORM?

Not Oxford. The well-run outfit is a rising star among HMOs

Stephen F. Wiggins smiles at the mention of health-care reform. At a time when most industry executives are wincing at the potential impact of the Clinton Administration's plan to overhaul the health-care system, the 36-year-old chief executive at Oxford Health Plans Inc. is betting that reform will be good for business. "It's all coming our way," says Wiggins.

That's not just wishful thinking. Experts say the Clinton proposals to extend health-care coverage to everyone could mean more business for Oxford and many of the 550 other regional health-maintenance organizations and managed-care providers around the country. Many have excelled in a climate of managed-health-care competition.

Oxford, in particular, has thrived. Thanks to an emphasis on quality care, innovative products, and pricing flexibility, the Darien (Conn.) company has seen its membership rolls almost quadruple since 1989, to 140,000. "They're offering a cut above what New Yorkers think of as managed care," says Jim Buckley, benefits consultant at KPMG Peat Marwick. As a result, analyst Nancy Moyer at Ladenburg, Thalmann & Co. estimates that Oxford's 1993 operating earnings could rise 71%, to \$13.7 million, while sales soar 87%, to \$290 million. And at a time when most other health-care stocks are taking a beating, Oxford's stock price has jumped 45% in the last three months, to about 55.

Wiggins founded Oxford in 1984, when

HMO programs were little-known and much-disdained in the greater New York market. But Wiggins, who previously headed a nonprofit facility for the physically disabled, soon hit on a receptive market: white-collar professionals and smaller law firms and ad agencies. Wiggins was able to woo them with a higher-quality network of doctors.

TRIED AND TRUE. Wiggins says quality care remains a big selling point. Unlike conventional HMO, with its own salaries, staff of physicians, Oxford has a network of doctors in independent practices. They get 65% or so of the normal office visit fee but are assured a steady volume of patients. Nowadays, Oxford boasts a network of 6,000 physicians, 91% of whom are board-certified in their specialties. At Prudential Insurance Co. managed-care plans, the ratio is 75%.

Oxford's quality costs a bit more than other managed-care programs in New York. On average, companies pay Oxford an annual premium of \$3,500 per employee, \$12 more than the average for other managed-care companies, according to health-benefits consultant Fetter Higgins. But Oxford's premiums are 30% lower than traditional insurance. And its medical loss ratio—the percent



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OXFORD'S HEALTH-CARE STRATEGY...

QUALITY CARE 91% of physicians in Oxford's plan are board-certified in their fields. The rest are awaiting certification. The average for competitors is 70% to 80%.

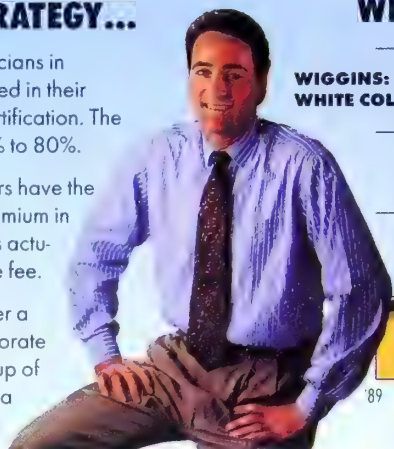
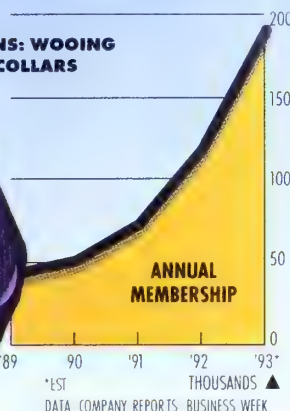
FLEXIBLE PAYMENT Customers have the option of paying a monthly premium in advance or paying for services actually used plus an administrative fee.

REDUCED PRICING Plans to offer a variety of discount plans. Corporate clients who agree to use a group of low-cost doctors could receive a price break of 10% to 15%.

of premiums spent on patient care—ends at 78%, vs. an average of 86%. Oxford's lower loss ratio reflects its sharp cost management. For example, the company recently noticed that many of its doctors were prescribing Theodor, a costly drug that Oxford claims was proven to be effective in treating asthma. At Oxford's urging, they're now using more tried-and-true drugs at half Theodor's \$40-a-month per-patient cost. Still, Oxford faces stiff competition. With employees in the New York re-

...IS A HIT WITH CUSTOMERS

WIGGINS: WOING
WHITE COLLARS



gion learning to accept managed-health plans, big insurers are gearing up. "In the next six to eight months, Oxford will see that we're going to be a player here," says Eugene Marks Jr., vice-president of group insurance marketing at Metropolitan Life.

HEAD START. Wiggins hopes Oxford's nimbleness will help his company stay on top of the competition. He has had some success with a flexible-payment plan that few managed-care competitors have duplicated. Rather than paying an up-front

premium, customers reimburse the insurer only as health-care costs are incurred. Oxford collects an administrative fee of \$30 to \$40 per employee each month.

That has meant a savings for some companies whose employees don't have huge medical costs. Len Tabs, senior vice-president of finance at Fortunoff Cos., says the jewelry-store chain has cut costs by 20%, or \$1 million a year, by switching to the new plan. Later this year, Oxford will launch a plan in which customers receive a discount of 10% to 15% on their monthly premiums if they agree to use a smaller universe of doctors selected for their abilities to keep costs down.

Wiggins knows that big rivals are headed his way. But with the Administration planning to outline its health-care reform package in June, Oxford's CEO believes he has a crucial head start. "The big guys know how to pay out claims, but they still aren't experts at managing health-care costs," says Wiggins. "The biggest thing we've got to worry about is how to manage 50%-a-year growth." That's the kind of headache most health insurers wish they had.

By Laurel Touby in Darien, Conn.



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France

SUMMER
'93
TRAVEL

SEARCHING FOR
ONE OF THOSE
SPECIAL PLACES,
JUST A BIT OFF
THE TOURIST
TRACK, WHERE
YOU CAN FIND
GOOD VALUE
AND A BLAST OF
CULTURE? THIS
YEAR, BARGAINS—
AS WELL AS
BANQUETS FOR
THE TRAVELER'S
SOUL—ABOUND
NOT ONLY ON
THE CONTINENT
BUT ALSO MUCH
CLOSER TO HOME

A TASTING OF BORDEAUX

Walking through his small vineyard in France's Bordeaux region, Bernard Lartigue tells visitors his philosophy of winemaking: "I want my wines to resemble me," says the portly, exuberant Lartigue. Rich and tannic, wines from his Château Mayne Lalande may become "one of the stars" of the 1990s, says wine guru Robert M. Parker Jr. But they haven't reached U.S. shelves yet, so to taste them, you'll have to pay Lartigue a visit. He'll give you a personal tour and tasting that will immerse you in the warm glow of French wine culture.

Even if you're only a modest wine buff, few European vacations are as good for the soul as a tour of the Bordeaux wine country. The world's leading producer of fine wine, it's also a microcosm of all that's appealing about France: fabulous food, charming people, and a gentle countryside that's a child's vision of nature. And even though the dollar has weakened a bit recently against the French franc, the region offers great value—especially if you stay with one of the many farmers and vintners who take in guests. That's by far the nicest way to see the area in any case.

Near the village of Saint-Ferme, for example, Dominique Lévy rents two huge rooms oozing with charm in her 18th-century stone farmhouse. Her rate for two is \$40 a night, with private bath and breakfast. She'll also cook you a gourmet dinner and share her recipes (011-33-56-8857). Not far away, the Château du Parc is a family-owned manor house with a wonderful French country kitchen, and five elegant suites starting at \$70 a night (011-33-5661-6918).

EFFERVESCENT. Both these hostleries are in the Entre-Deux-Mers district, 30 miles east of Bordeaux. A producer of simple vintages, this picturesque area is off the main tourist track. All the better. Unless you like only pricey *grands crus*, Bordeaux's lesser-known areas are the most pleasant for touring. You can drop by unannounced at most vineyards—unlike the châteaux of Médoc and Saint-Émilion, where you may have to reserve in writing weeks in advance. And you'll meet the owner at lesser vineyards, not a guide.

In Entre-Deux-Mers, knock on the door of a small vineyard, and you'll be welcomed by the owner. In the evening, you'll sit around a table with a few other guests, and the owner will pour you a glass of wine. You'll taste the wine, and you'll talk to the owner. You'll learn about the vineyard, the soil, the weather, the grapes, the wine. You'll learn about the owner. You'll learn about the life in the vineyard. You'll learn about the life in the region. You'll learn about the life in France.



SAVOR THE MOMENT:
THE BORDEAUX AREA
HAS A VAST NUMBER
OF WINES TO SAMPLE



er of Château Lavison, a tiny 12th-century
tle built by the English during the Hundred
rs War. Its effervescent owner, Martine Mar-
will walk you through her fortress home
l let you taste wine from her vineyard.
âteau Margaux it ain't, but at \$4 a bottle, it's
fect for a picnic beside the nearby millstream.
The wine country is vast, with 53 govern-
nt-designated *appellations* and thousands of
ducers surrounding Bordeaux. The city's Mai-
du Vin will send you piles of brochures (1,
rs du 30 juillet, 33075 Bordeaux, France).
ce there, drop by this nonprofit promotion
ter for a free wine tasting. You can pick from
ens of wines from all Bordeaux districts. An
ologist will explain the fine points of tasting.
ou crave deeper knowledge, the center will
e a three-day tasting course in English start-
on June 28—a once-a-year event that costs
0 including meals (011-33-5600-2266).

WINE-SELL APPEAL. Another great place to learn is
Maison du Vin in Saint-Emilion—far and
ay the wine country's prettiest town. The
ter organizes two-hour tastings twice a day,
n June 19 to mid-September, at a cost of \$18.
I'll sample only local wines, but they're among
world's best. Be sure to visit the town's
derground chapels, carved from bedrock and
ing to the 8th century. The tourist office
es a daily 2:30 tour: Make sure to book in the
rning.

If you have time for only one Saint-Emilion
ery, go to Château Pavie. Perched on a hill,
h 11th-century wine cellars carved in a cliff, it
mands a view of the town and the Dordogne
er. Owner Jean-Paul Valette is one of the
deaux region's most engaging vintners, eager
share his passion for wine. "I ask visitors to
y at least an hour," he says. "If they have
y five minutes, there's no point." His wine is
nning—and pricey. You can't buy it at the
teau.

A soft sell is one of Bordeaux's great appeals.
stly family-owned, its wineries don't have the
de-for-tourists feel of many in California.
ere's no pressure to buy, and vintners under-

stand that U.S. Customs limits Americans to
two bottles. Shipping larger quantities is compli-
cated and more expensive than buying at home.
If you love a wine you taste but can't find it in
the U.S., ask a wine store to arrange an im-
port order.

Bordeaux's biggest collection of upper-crust
wines comes from the Médoc district. Such re-
nowned châteaux as Lafite-Rothschild, Latour,
and Margaux stretch along a peninsula that ends
at the Atlantic Ocean. Unfortunately, the area is
flat and grim, with no interesting villages—so
touring there is mainly a pilgrimage to the fount
of greatness.

HARVEST CREWS. One of the greatest, Mouton-
Rothschild, has a wine museum that's worth a
visit. It displays such artifacts as gold wine chal-
ices from pre-Christian times. As at many top
châteaux, you need an appointment. The Maison
du Vin in Bordeaux can help make one. If you're
a golfer, the Golf du Médoc—one of Europe's
better courses—has a top-château sponsor for
each of 36 holes. Its restaurant serves their
wines at cut-rate prices.

Possibly the region's best wine barg-
ains are in the Graves district, south
of Bordeaux. Though not well-known
in the U.S., its reds are smooth and
sophisticated. Have lunch at an *au-
berge* near Podensac with great re-
gional cooking—Le Luma—and order a
1986 Château Respide-Médeville. Near-
by, you can stay at Château de Mal-
romé, the vast hilltop home of Henri de
Toulouse-Lautrec's mother, where the paint-
er spent his last years.

To get truly close to the vine, you can join
the harvest crew at some wineries. It's tough
work—for two weeks, in late September or early
October. But you'll be well fed, see winemaking
first-hand, and even earn \$6 an hour. Try
Château Crusquet Sabourin on a hilltop above
Blaye (011-33-5742-2269).

When you head into the vineyards, take good
maps: The roads are labyrinthine. And of course,
take a good thirst.

Stewart Toy

BORDEAUX GLOW:
DESPITE A WEAKER
DOLLAR, THE REGION
STILL OFFERS GREAT
VALUE, ESPECIALLY
HOSTELRIES SUCH AS
THE CHATEAU DU PARC,
A FAMILY-OWNED
MANOR HOUSE;
WINERIES IN THE
SAINT-EMILION
DISTRICT MAY BOAST
PRICED GRANDS CRUS,
BUT BORDEAUX ALSO
OFFERS EXCELLENT,
LESSER-KNOWN
VINEYARDS





ROOM WITH A VIEW: ARCHITECTS PRESERVED AN OLD BULLRING TO CREATE THE QUINTA REAL HOTEL. BELOW, MEXICAN FOLK ART

of Mexico's legendary matadors fought bulls in this ring, built in 1818. Today, as you climb the 12 steep, quarried levels, you can imagine the cries of "Ole!" that once echoed here.

The bullring has been transformed into a unique hotel, the Quinta Real (800 445-4565). The architects preserved the ring, including the bull-holding pens, where visitors can sip drinks from cave-like surroundings next to graffiti messages left by the matadors.

Around the ring's upper edge, the designers added a stunning smattering of rooms in the rich ochre tones of the region's farmlands. It's a spectacular hotel, where one can sit spellbound for hours.

But there is much more to see in this beautiful town, founded in 1546 by Spanish conquerors whose mines produced more than one billion dollars' worth of silver. The colonial architecture and art treasures that Zacatecas has preserved are outstanding. The pink sandstone cathedral, with its ornate facade, is one of the richest examples of Mexican baroque architecture.

SECRET GARDENS. This is a city for walking, offering endless surprises in the form of cobblestone alleyways, charming parks with canopies of purple bougainvillea, and hidden markets. Tour the now-defunct Eden mine, crossing wobbly suspension bridges that span three-story drops.

Considering Zacatecas' wealth of silver, it's surprising that the jewelry and relics for sale are disappointing. You can find better silver souvenirs in San Miguel de Allende, a charming artists' colony favored by Americans that lies 4½ hours south by car. But if you seek out-of-the-way spots with few tourists, don't pass up Zacatecas. Traveling in this part of Mexico, while more expensive than five years ago, is still a bargain.

Before leaving Zacatecas, visitors should miss another unusual collection of folk art at the San Agustín museum. Fantastic papier-mâché

monsters called *alebrijes* have brightly painted bodies, wagging tongues, and sweeping wings. They were created by artist Pedro Linares, who as a child fell deliriously ill and dreamed of monsters pursuing him. He and his family transformed the monsters into whimsical folk art beasts—perhaps to purify the ghosts of the past, or perhaps to keep them alive for future generations.

Geri Smith

Mexico

VOICES OF THE PAST IN ZACATECAS

You wouldn't expect a museum guard to have much job-related anxiety, but Mauro Martínez sure did when he started working at the former Convent of San Francisco in Zacatecas, Mexico. Built in 1593 at the height of Mexico's silver boom, the structure is filled with folk-art masks—including hundreds of leering devil faces illuminated by red beams of light.

"At first, I dreamed about these faces every night—I couldn't get them out of my mind," Martínez says. "But I got used to them. We Zacatecans are very closely linked to our history."

Everywhere you stroll in this town, a seven-hour drive, or one-hour flight, northwest of Mexico City, you are confronted with ghosts. There's the Palace of the Bad Night, where a passionate 18th-century suitor was discovered by his love's disapproving father. The two killed each other, and as the girl leaned out a window, she fell to her death.

Then there's the Cerro de la Bufa, the hilltop site of Pancho Villa's decisive battle against dictator Victoriano Huerta in June, 1914. Larger-than-life bronze statues of Villa and cohorts astride their horses and memorabilia from the revolutionary era make a fascinating museum.

"OLE!" But where the voices of the past truly resound is in the historic San Pedro bullring, next to a towering stone aqueduct that was the main waterline 200 years ago. Some



HISTORY BUFFS
WILL LOVE THE
SPANISH
COLONIAL
ARCHITECTURE



A map of Europe with numerous cities marked by orange circles, each containing a black airplane icon. The cities are distributed across the continent, including major hubs like London, Paris, Frankfurt, and Amsterdam, as well as smaller regional centers. The map also shows geographical features like the British Isles, the Alps, and the Mediterranean Sea.

Major cities marked include:

- Reykjavik, Bergen, Oslo, Stockholm, Helsinki, St. Petersburg, Visby, Tallinn, Riga, Vilnius, Moscow, Minsk, Kiev, Warsaw, Berlin, Hamburg, Bremen, Hanover, Munster/Osnabruck, Dusseldorf, Cologne/Bonn, Leipzig, Dresden, Prague, Frankfurt, Stuttgart, Nuremberg, Linz, Vienna, Graz, Budapest, Zagreb, Trieste, Belgrade, Bucharest, Sofia, Istanbul, Ankara, Izmir, Antalya, Heraklion, Larnaca, Athens, Thessaloniki, Bari, Naples, Rome, Florence, Bologna, Venice, Verona, Innsbruck, Salzburg, Fr. hfn., Lugano, Geneva, Zurich, Munich, Basel, Turin, Lyons, Toulouse, Marseille, Bastia, Pisa, Olbia, Catania, Palermo, Cagliari, Palma de Mallorca, Ibiza, Valencia, Barcelona, Madrid, Oporto, Faro, Las Palmas, Tenerife, Malaga, Seville, Lisbon, Bilbao, Jersey, Guernsey, Manchester, Amsterdam, Westerland, Dublin, Glasgow, Reykjavik.

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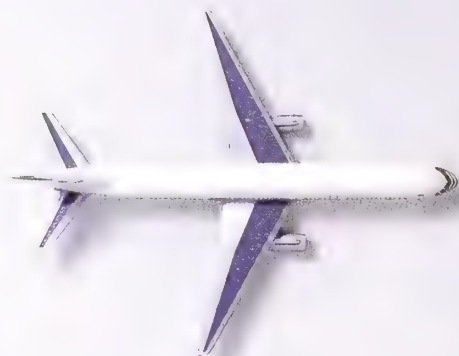


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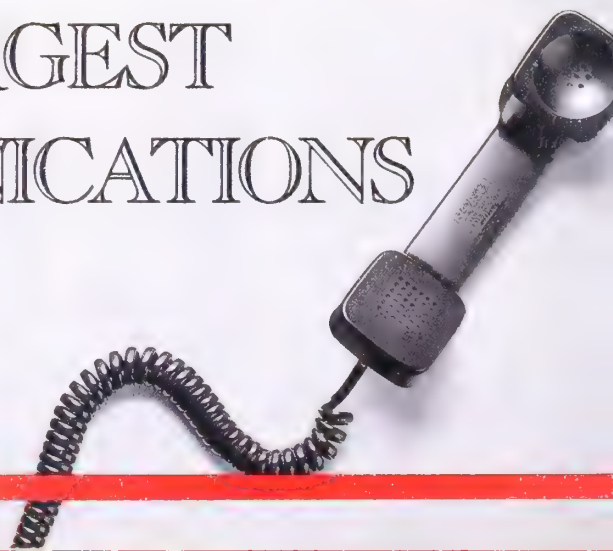
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OPERA ALFRESCO:

THE ARENA DI VERONA
IN THE CITY'S
ROMANTIC ANCIENT
HEART. THE FESTIVAL
DEI DUE MONDI IN
SPOLETO (BELOW) IS A
LAUNCHING PAD FOR
YOUNG ARTISTS



Italy

ARIAS OF INTEREST: AN OPERATIC FEAST

Imagine a balmy July evening, watching Giuseppe Verdi's *Aida* amid the torch-lit red-brick ruins of Rome's ancient Baths of Caracalla. The ultimate in operatic spectacles, down to the horse-drawn chariots on stage, Rome Opera's production of *Aida* is a performance music lovers shouldn't miss.

If you're big on opera, this could be your lucky year. With the Italian lira down 30% against the dollar since last year, the summer could be a great time to take in some spectacular opera festivals. Staged in picturesque hill towns, ancient theaters, medieval ports, and outdoor ruins, from the sunny shores of Sicily to the northern Dolomites, the festivals provide a chance to hear *bel canto* in the land where it began.

Rome's festival, running from June 20 until Aug. 20, takes place in a setting once famous throughout the ancient world, the ornate baths built by Roman Emperor Caracalla in 212 A.D. Now, the massive ruins provide a perfect backdrop every summer for operas, ballets, and concerts. This year the opera program includes *Aida*, *Turandot*, and *Tosca*.

RARE ROSSINI. Just north of Rome, the old and new worlds converge at the Festival dei Due Mondi in the medieval Umbrian hill town of Spoleto. Founded in 1958 by composer Gian Carlo Menotti, the Spoleto festival usually has a strong American presence—probably because of the close link with "Spoleto USA," begun in Charleston, S.C., in 1977. A launching pad for young artists, Spoleto-Italia is an extravaganza of opera, concerts, dance, drama, and film. This year's festival runs from June 19 until July 18 and features two operas: Puccini's *Il Trittico*, and Stravinsky's *The Rake's Progress*.

Hard-core opera buffs might consider a trip to the Adriatic coast city of Pesaro, the birthplace of Rossini and home of the annual Rossini Opera Festival. The 13-year-old event is known for staging obscure Rossini operas, along with better-known works by the prolific 19th-century composer. This year, *Armida*, featuring newly uncovered material, tops the bill. Also of interest is a concert featuring 13 rare Rossini arias.

Not too far from Pesaro is the ancient Byzantine capital of Ravenna, with its magical mosaic-filled churches. Tenor Luciano Pavarotti performs a special recital on July 21 at the scenic waterfront.

FARM CHARM. For the sheer grandeur of big opera, nothing can compete with Verona. The city's romantic, ancient heart is home to one of the best-preserved Roman amphitheaters in existence—the Arena di Verona—and one of the most famous opera festivals in Europe. The event, which starts on July 2 and runs until Aug. 1, features five operas: *Cavalleria Rusticana*, *Pagliacci*, *Carmen*, *La Traviata*, and *Aida*. Tenor Plácido Domingo will sing Canio in *Pagliacci*.

Accommodations range from rustic inns and castles to four-star hotels. In some towns, it's virtually impossible to find a room as the festival draws near. An economical alternative is *agriturismo*—staying at a farm, inn, or home in the countryside. For information, call 001-396-685-2342.

You sometimes can pick up tickets at the box office on performance day. But in a country synonymous with opera, it makes sense to book in advance. For information, call the Italian Tourist Office (212 245-4822). And don't forget to take your opera glasses.

Gabrielle Savat

SUMMER
'93
TRAVEL



TAKE IN SOME
OF THE GREAT
OPERA FESTIVALS
WHILE THE LIRA
IS DOWN



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The
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Belgium

ANTIQUES: BAGGING BARGAINS IN BRUSSELS

Rain and a famously dull lifestyle have kept rents, car prices, and a lot of other things cheaper in Brussels than in tonier European capitals. Even antiques go for bargain prices.

The other day I spied a matching pair of green upholstered Art Deco armchairs in pristine condition for about \$1,300 each. "For that," said an anxious New York friend, "you'd find a chair that looked like your cat had murdered it." Flo Berman, an Art Deco specialist and owner of Berman, says Big Apple prices can be twice as high. "I get a lot of customers from New York—American dealers," says Berman, whose Rue Ste. Anne shop is just off the Grand Sablon square, and zero for Brussels' antiques district.

REAL MCCOY. Shops on the swanky Sablon, such as the 18 inside the Antique Fair Center, are open daily. There's also a weekend open-air market, held on the square under vast green-and-white canvas stalls (Saturday 10 a.m.-6 p.m., Sunday 8 a.m.-2 p.m.). If you know antiques, there are greater bargains to be had at this hodgepodge bazaar, where one is as likely to find Victorian dolls or a 300-piece set of Art Nouveau silverware as a dining room table to die for.

If you're a novice, caveat emptor, says Betty De Coninck, manager of Antiques & Design Center, a Sablon-area specialist in old pine furniture. "Even at the Grand Sablon you have to watch out for people who sell new things as antiques," she says. The Place de la Chapelle store, the most in the area, provides certificates of authenticity for the genuine articles, such as the 17-year-old, six-foot-tall French pine armoire I bought for the rock-bottom price of \$1,000.

Sablon-area merchants identify uncertified antiques as *brocante*, which means second-hand in French. If you get lucky and spot something so good that happens to be a real antique, the price will be considerably less than it would be with a certificate of authenticity.

Inveterate bargain hunters might also enjoy prowling through the jumbled daily flea market on the nearby Place du Jeu de Balle. Given Belgium's onetime colonial ties, you'll find lots of African items, such as a 100-year-old, 24-inch-tall statue from Zaire's Kuba Herba tribe that was going for \$10 the day I visited. In fair condition, the six-foot Belgian

KEY OF THE DOLLS: DISPLAY AT THE FAIR ON THE SQUARE



pine armoire, also about 100 years old, was the same price. But if you buy something, don't bother asking for an antique certificate. They're nonexistent at the flea market. You may not even get a bill of sale (needed to obtain sales tax refunds). "Some of the stuff at the flea market is stolen," says De Coninck.

SABLON SNACKS. Of course, nonluggable antiques have to be shipped home. Ziegler, a major Belgian transport company (011-322-422-2209) with English-speaking clerks, charges a minimum of \$265, including packing, to send 2 cubic meters (about 75 cubic feet) of goods to New York by ship. There's an add-on if items weigh more than 2,200 pounds. Delivery takes three weeks. By air, the minimum rate for the same volume is \$400, with the add-on starting after 720 pounds. Even the flea market's wily merchants will help you arrange transport—at least to Ziegler's warehouse.

Offsetting delivery charges on certified antiques, which must be more than 100 years old, is a recoverable 6% sales tax. And buyers don't have to pay U.S. duty. For furniture of the Art Deco or Art Nouveau era—too modern to qualify as certified antiques—the charge is 2.5% to 5% U.S. duty. But the recoverable tax is 19.5%.

If you shop till you drop, or if the arcana of antiques is just too much for your jet-lagged brain to deal with, fear not. The Sablon area is also prime eating turf in gas-

tronomic Brussels, where even the picky French have been known to smack their lips. Brussels' best pastry shop, Witamer's, is right on the square. And just on the edge at Rue Bodenbroeck, 18, is l'Ecailler du Palais Royal, a fish restaurant the Michelin guide rates two stars. *Patrick Oster*

RUMMAGEMANIA: GREAT FINDS CAN BE HAD ON THE SWANKY GRAND SABLON

SUMMER '93 TRAVEL



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Summer theater: The words evoke images of folding chairs, converted barns, and aspiring stars performing in quaint, low-budget productions. But just over the U.S. border in Ontario, you will find two theater festivals that are polished and professional as they get.

The Stratford Festival, now in its 41st season, is one of the best places outside Britain to see the works of William Shakespeare. And the

Shaw Festival in lovely Niagara-on-the-Lake offers the world's best repertory company devoted to the plays of George Bernard Shaw and his contemporaries. Both are easily accessible from the heart of the Midwest and East. Greenbacks are now worth 77 Canadian at recent rates, compared with \$1.20 last May.

RUFF STUFF. At Stratford, don't expect museum-like Elizabethan productions. The festival makes use of contemporary dress and special effects to freshen up classics.

In this year's production of *Midsummer Night's Dream*, some of the characters wear business attire. This season, which

runs through Nov. 14, features 11 productions, five by Shakespeare. Others include Gilbert and Sullivan's *The Mikado* and the musical *Gypsy*. You should call soon for weekend reservations (567-1600). Or you might want to plan a midweek visit, when the plays, the town, and the restaurants are less crowded. Ticket prices range from \$30 to \$44, but check for discount packages. The same toll-free service will help you find a

place to stay. That's important, because Stratford has only a few hotels. Two of the best bets are The Festival Inn, within walking distance of the theaters, and the Stratford Arms, which features sumptuous suites. Or consider one of the many bed-and-breakfasts.

Despite Stratford's small-town feel, it boasts some of Ontario's best restaurants. You may need reservations several weeks in advance for weekend dining at The Arch (519 273-3424). It's situated in a century-old church, replete with stained-glass windows. Prix-fixe meals are divine. Sample such specialties as sautéed Canadian caribou with a juniper-berry sauce. Or try Run, on Lake Victoria, which serves French cuisine. While Stratford appeals strict-

ly to theater lovers, Niagara-on-the-Lake offers a much wider variety of diversions. The town is a 20-minute drive from Niagara Falls but seems a world away from the tourist traps. You can spend an afternoon visiting galleries and shops in the beautifully maintained 19th-century village.

This year, the Shaw Festival features nine plays, including Shaw's riveting *Saint Joan* and the musical about the Roaring Twenties, *Gentlemen Prefer Blondes*. The season runs through October, and you can reserve by calling 800 724-2934. Tickets go for \$20 to \$40. To immerse yourself in the Victorian era, consider the town's leading hotel, The Prince of Wales. Royals, its Victorian dining room, offers tasty Continental cuisine. Another good bet is Queen's Landing, a Georgian-style hotel.

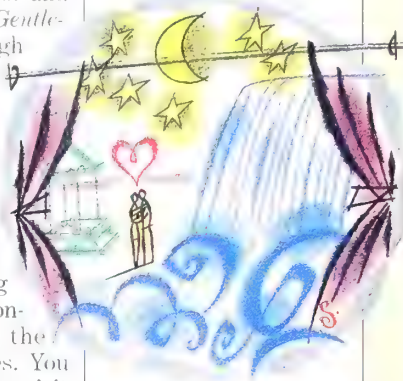


PRETTY PARKWAY. During the War of 1812, Niagara-on-the-Lake was burned to the ground by American forces. You can recapture some of the spirit of that era by visiting Fort George, once a British installation, now staffed with guides decked out in uniforms from the early 19th century. Continue down the Niagara Parkway, which Winston Churchill aptly described as "the prettiest Sunday afternoon drive in the world." It runs along the Niagara River to the Falls, past the vineyards of the booming Ontario wine industry. When touring the vineyards, ask about Ontario's renowned Icewine, made from frozen grapes.

Because Stratford and Niagara-on-the-Lake are only two hours apart, you might want to take advantage of a Yankee Holidays package (800 225-2550). It features one night of midweek accommodations in both towns and a performance at each of the festivals, for \$429 per couple.

William Symonds

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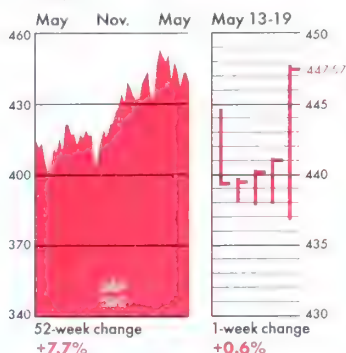
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Investment Figures of the Week

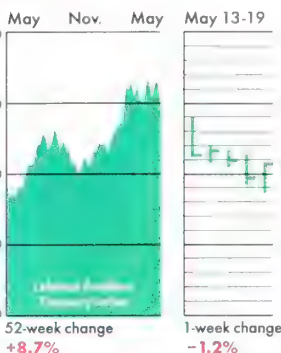
MENTARY

500! The Dow Jones industrial average closed at a new century marker, and new high as well, as a result of a surprise afternoon rally in May 19. The Dow fell as much as 34 1/2 early in the day, as investors feared the Fed board members would call for tighter monetary policy. Earlier in the week, interest rate reports had already pushed yields back over 7% and helped ease a two-year high. Fed governors gave no hint of a rate hike, so the bulls ran rampant on Wall Street.

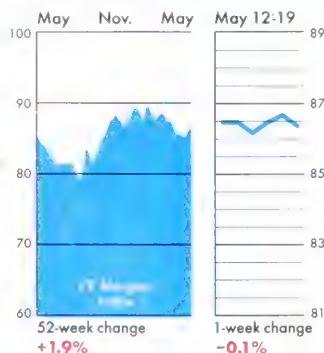
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS	Latest	Week	% change 52-week
DOW JONES INDUSTRIALS	3500.0	0.5	3.1
MIDCAP COMPANIES (S&P MidCap Index)	164.0	0.0	13.9
SMALL-CAP COMPANIES (Russell 2000)	229.3	0.2	16.2
MICRO-CAP COMPANIES (Russell 3000)	255.9	0.4	9.3

INTERNATIONAL STOCKS	Latest	Week	% change (local currency) 52-week
DOW JONES WORLD (FINANCIAL TIMES 100)	2819.7	-1.4	4.0
NIKKEI INDEX	20,380.8	-1.1	9.1
TSE COMPOSITE	3811.3	0.4	12.7

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	3.03%	2.95%	3.67%
30-YEAR TREASURY BOND YIELD	6.97%	6.86%	7.81%
S&P 500 DIVIDEND YIELD	2.83%	2.81%	2.96%
S&P 500 PRICE/EARNINGS RATIO	22.6	22.4	25.4

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	440.6	439.9	Positive
Stocks above 26-week moving average	55.9%	62.3%	Negative
Speculative sentiment: Put/call ratio	0.38	0.39	Neutral
Insider sentiment: Vickers sell/buy ratio	2.61	2.87	Negative

INDUSTRY GROUPS

4-WEEK LEADERS	% change 4-week	52-week	Strongest stock in group	% change 4-week	52-week	Price
MINING	31.5	50.8	ECHO BAY MINES	98.0	94.0	12 1/8
INSTRUMENTATION	13.8	9.7	HEWLETT-PACKARD	15.7	9.5	84 3/4
HOSPITAL MANAGEMENT	11.7	-27.3	GALEN HEALTH CARE	15.6	15.6	13 7/8
PHARMACEUTICALS	9.4	27.3	HASBRO	10.6	29.4	35 1/4
TOYS	8.1	-15.5	PFIZER	13.7	0.5	70 3/8

4-WEEK LAGGARDS	% change 4-week	52-week	Weakest stock in group	% change 4-week	52-week	Price
INSURANCE	-11.7	32.8	CAPITAL HOLDING	-16.2	32.9	34 7/8
MAJOR REGIONAL BANKS	-11.3	12.1	NATIONSBANK	-15.3	-4.4	46 3/8
CITY CENTER BANKS	-10.4	14.7	CHASE MANHATTAN	-15.6	-0.9	29 1/8
TRUCKING	-10.2	-24.4	CONSOLIDATED FREIGHTWAYS	-11.6	2.4	16 1/8
HEAVY-DUTY TRUCKS	-10.0	6.5	PACCAR	-16.9	-5.2	54 1/4

MUTUAL FUNDS

LEADERS	Week total return	%	LAGGARDS	Four-week total return	%
AMERICAN STRATEGIC INVESTMENTS	43.1		STEADMAN AMERICAN INDUSTRY	-16.3	
NITREND GOLD	33.0		STEADMAN OCEANOGRAPHIC TECHNOLOGY	-13.9	
UNITED SERVICES GOLD SHARES	31.5		FIDELITY SELECT REGIONAL BANKS	-11.9	

Week total return	%	52-week total return	%
AMERICAN STRATEGIC INVESTMENTS	63.2	PROGRESSIVE AGGRESSIVE GROWTH	-28.5
UNITED SERVICES WORLD GOLD	51.1	FINANCIAL STRATEGIC ENVIRONMENTAL	-24.7
UNITED SERVICES WORLD GOLD	48.4	G.T. LATIN AMERICA GROWTH A	-19.4



RELATIVE PORTFOLIOS

Amounts as of May 18, 1993	Foreign stocks	Treasury bonds	Gold	U.S. stocks	Money market fund
Initial investment of \$10,000	\$11,931	\$11,890	\$10,904	\$10,884	\$10,244
Value one year ago	-1.46%	-2.30%	+3.50%	-0.91%	+0.05%

Figures on this page are as of market close Wednesday, May 19, 1993, unless otherwise indicated. Relative portfolios include S&P 500 companies only; performance and share prices are as of market close.

May 18. Mutual fund returns are as of May 14. Relative portfolios are valued as of May 18. A more detailed explanation of this page is available on request.

THE NUMBERS DON'T ADD UP TO INFLATION

It's certainly possible to panic, as the bond markets have done. Never mind that unemployment is stuck at 7%. Never mind that industrial capacity is at a modest 81.4% or that the U.S. economy is in the most sluggish of recoveries. A couple of months of bad inflation news, and the bond markets have decided the inflation dragon is back and breathing fire. Worse, some folks at the Fed are getting a case of nerves over the price numbers, leading to a tussle over the direction of Fed policy—to tighten or not to tighten (page 28).

It would be a mistake for the Fed to tighten right now. True, consumer prices and producer prices have popped up. So far this year, the CPI has risen at a 4.3% annual rate, up from 2.9% last year. Producer prices, meanwhile, have risen 4.8%. Commodity prices have also bobbed and weaved a bit this year, and there are, to be sure, some concerns that new taxes will push the indexes higher.

But these developments do not an inflationary outlook make. Two factors crucial to any sustained surge in prices are missing. First, wage and compensation gains remain stunningly moderate. Compensation costs, including wages, salaries, and employer costs for employee benefits, rose 3.5% in the year ended March, 1993—the same rate of increase for the year ended December, 1992. And with productivity, especially in manufacturing, showing healthy gains, unit labor costs are well under control. If inflation were a problem, the push from wages would be apparent. It's not.

Second, the classic ingredient that sustains inflation, rapid money growth, is missing. The narrowly defined M-1 grew at a 4.4% annual rate during the last quarter. Meanwhile, the broader aggregates, M-2 and M-3, which most economists look to now as better monetary indicators, actually shrank by 2.2% and 2.6%, respectively, during the same period. Over the past year, M-2 has grown a mere 0.2%.

Not only do the data on compensation and monetary aggregates tell us that inflation is not a problem; they also tell us that the recovery is still fragile. And that, more than anything else, is reason enough for the Fed to stand firm in the face of a few bad inflation numbers.

HOW TO PUT NEW LIFE IN THE GERMAN MIRACLE

What has happened in the U.S. and Japan is now happening in Germany. Restructuring, belt-tightening, and cost-cutting have finally reached Germany—and with good reason. Three years after unification, the German economy is in a slump. To pay for unification, the German government pushed the deficit to 6% of gross domestic product, and today Germany has the dubious honor of having an inflation rate, at 4%, that exceeds that of France. Despite the deep manufacturing recession, the Bundesbank has been slow to cut rates. Now, the Kohl government must

cut spending and rethink a social contract that extends very generous benefits to Germans.

Manufacturing, which long traded comfortably on the high reputation of German engineering and design, is facing its own *Götterdämmerung*. German manufacturing labor costs, at \$25 an hour, are now the highest in the world; Japanese luxury cars have outsold German ones in the important U.S. market; and few buyers anywhere want to pay a stiff premium for German goods. Even the vaunted *Mittelstand*, the midsize companies, are finding that they, too, are uncompetitive. So German manufacturers are slashing payrolls, outsourcing production to cheaper locales in Eastern Europe and the U.S., demanding more of suppliers, and designing cost saving into their products.

As in the U.S. and Japan, the restructuring is bound to be painful as job losses mount. But government, industry, and workers must persist in trying to make Germany more competitive. The Kohl government, up for reelection in 1994, should vigorously pursue plans to cut spending. Europe and the rest of the world need a strong, competitive Germany: a market for their goods, as a model for reinventing industry and government, and as a leader in helping eastern Europe and the former Soviet Union join the West economically.

ATM SHOULDN'T STAND FOR 'ARTFULLY TAKEN MONEY'

Want to rob a bank? With the advent of automatic teller machines, it's become a lot easier than cracking a vault or passing a holdup note to a teller. Today's John Dillingers and Willie Suttons don't need to pack guns—instead, they might use a pair of binoculars to peer at people entering their personal identification numbers into an ATM. Or they might find that a familiarity with computer software comes in handy—to draw information from people using cards at a bogus cash machine, then use that information to loot accounts at another location.

That's just what some wily and brazen thieves did in Connecticut recently, playing on the gullibility of dozens of bank customers. The extent of the losses isn't yet known, and banks whose customers' accounts were raided have pledged to make them whole. But the incident sent chills down the spines of bank officials, who now have yet another form of bank crime to protect against. ATM fraud has existed for as long as there have been ATMs. Plastic cards are easy to replicate, and some people are sloppy about keeping their PINs private—indeed, some fraud turns out to be using cards by friends and family.

Because customers' cards are so easy to replicate, banks are now considering thief-proofing measures, such as printing the cards with telltale watermarks or electrocardiogram fingerprints (page 39). Another idea: retina scanning, which would force bank customers to position their eyes (right or left?) in an eyecup (!) for identification before the card could be used. Technology is bringing brand-new forms of fraud. But it somehow seems incumbent on customers to assume some personal responsibility for the safety and soundness of their own bank accounts. *Caveat* cardholder.

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Cover Story

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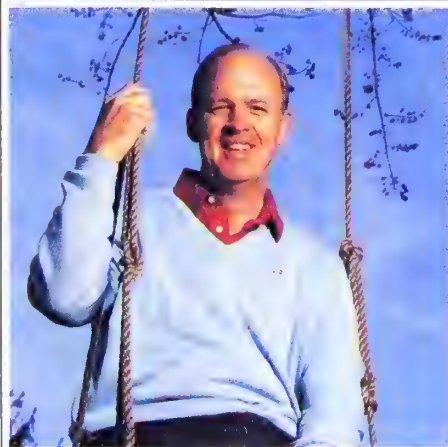
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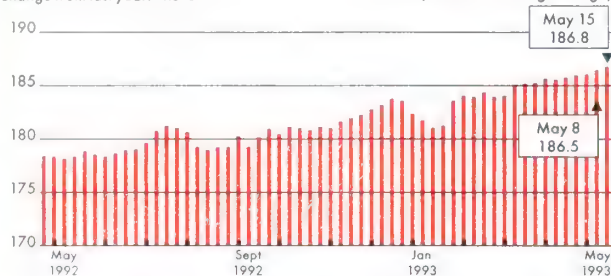
Federalism: Tonic for global growth
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Balladur's chance to restore France

BusinessWeek Index

PRODUCTION

Change from last week: 0.2%
Change from last year: 4.5%

1967=100 (four-week moving average)

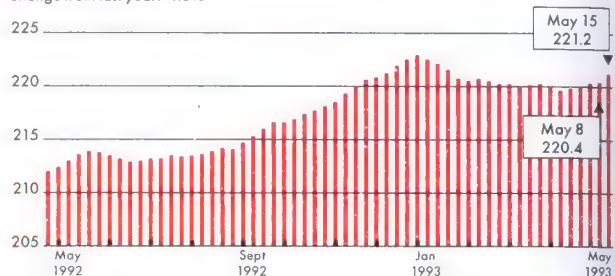


The production index increased slightly during the week ended May 15. Since early March, the index has been improving slowly. On a seasonally adjusted basis, the output levels of steel, autos, paperboard, and paper all rose. Rail-freight traffic and truck, electric power, crude-oil refining, coal, and lumber production declined for the week. Before calculation of the four-week moving average, the index dropped to 186.3, from 187.4.

BW production index copyright 1993 by McGraw-Hill Inc

LEADING

Change from last week: 0.3%
Change from last year: 4.3%



The leading index advanced during the week ended May 15. A large drop in the number of business failures, along with improvement in the growth rates of M2 and real estate loans fueled the increase. Those positive indicators offset lower stock prices, higher bond yields, and a decline in the growth of materials prices. Before calculation of the four-week moving average, the index was up sharply, rising to 224.3, from 220.8 in the previous week.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (5/22) thous. of net tons	1,905	1,818#	5.8
AUTOS (5/22) units	137,582	135,081r#	1.4
TRUCKS (5/22) units	103,758	107,620r#	13.3
ELECTRIC POWER (5/22) millions of kilowatt-hours	53,228	53,959#	0.9
CRUDE-OIL REFINING (5/22) thous. of bbl./day	13,733	13,607#	-2.5
COAL (5/15) thous. of net tons	18,142#	18,319	-2.3
PAPERBOARD (5/15) thous. of tons	819.8#	799.4r	9.1
PAPER (5/15) thous. of tons	746.0#	762.0r	2.6
LUMBER (5/15) millions of ft.	469.9#	468.6	-5.6
RAIL FREIGHT (5/15) billions of ton-miles	21.2#	21.1	2.4

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWPA, SFPA, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (5/26)	108	110	128
GERMAN MARK (5/26)	1.62	1.62	1.61
BRITISH POUND (5/26)	1.55	1.54	1.82
FRENCH FRANC (5/26)	5.47	5.46	5.41
CANADIAN DOLLAR (5/26)	1.26	1.26	1.20
SWISS FRANC (5/26)	1.45	1.47	1.46
MEXICAN PESO (5/26) ²	3.127	3.097	3.091

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (5/26) \$/troy oz.	374.500	381.900	10.6
STEEL SCRAP (5/25) #1 heavy, \$/ton	106.50	106.50	13.3
FOODSTUFFS (5/25) index, 1967=100	205.7	206.2	3.1
COPPER (5/15) c/lb	88.5	87.0	-15.8
ALUMINUM (5/15) c/lb.	52.5	53.0	-12.5
WHEAT (5/15) #2 hard, \$/bu.	3.57	3.49	-8.5
COTTON (5/15) strict low middling 1-1/16 in., c/lb	58.40	58.39	3.3

Sources: London Wednesday final settling, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (5/21) S&P 500	444.94	442.15	7.1
CORPORATE BOND YIELD, Aaa (5/21)	7.48%	7.41%	-9.1
INDUSTRIAL MATERIALS PRICES (5/21)	95.4	96.3	-2.1
BUSINESS FAILURES (5/14)	380	457	-4.1
REAL ESTATE LOANS (5/12) billions	\$397.7	\$394.9r	-2.1
MONEY SUPPLY, M2 (5/10) billions	\$3,467.9	\$3,448.0r	0.6
INITIAL CLAIMS, UNEMPLOYMENT (5/8) thous.	337	342	-17.1

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
ORDERS FOR DURABLE GOODS: MFG. (Apr.) billions	\$130.3	\$130.2r	6.1
BUDGET SURPLUS OR DEFICIT (-) (Apr.) millions	\$8,088	-\$44,577	-44.1
IMPORTS (Mar.) millions	\$49,203	\$44,832r	15.1
EXPORTS (Mar.) millions	\$38,996	\$36,928r	4.1

Sources: Commerce Dept., Treasury Dept

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (5/10)	\$1,064.8	\$1,054.8r	11.1
BANKS' BUSINESS LOANS (5/12)	275.7	277.5r	-4.1
FREE RESERVES (5/12)	771r	1,286r	62.1
NONFINANCIAL COMMERCIAL PAPER (5/12)	158.2	161.5	8.1

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	Year ago
FEDERAL FUNDS (5/25)	3.21%	2.97%	3.80%
PRIME (5/26)	6.00	6.00	6.50
COMMERCIAL PAPER 3-MONTH (5/25)	3.19	3.15	3.91
CERTIFICATES OF DEPOSIT 3-MONTH (5/26)	3.15	3.12	3.89
EURODOLLAR 3-MONTH (5/21)	3.13	3.08	3.91

Sources: Federal Reserve Board, First Boston

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

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“The pieces were there, but it took the right bank to help put it all together.”

*Richard Rice & Robert Delahaut
Owners, MK Diamond Products, Inc*

“A proven product, a trusted name, and a growing dominance in an important niche. When we came on board as sales managers, we recognized the potential of this company right away.

So when the opportunity for the two of us to buy the business came along, we were ready. We tried a couple of other banks, but Bank of America scrutinized things a little more carefully. And that was good. Because it forced us to tighten our inventory controls and accounting procedures. Once we became owners of the

company, this attention to detail helped us get our construction tools onto more shelves. And into markets around the world.

Today our banker, Ivy, helps us with financial transactions such as letters of credit and the profit-sharing plan BofA helped us create. All in all, thanks to BofA, our business is more efficient than it used to be. And that's made us much more successful.”

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LINKING PAY TO PERFORMANCE WITHOUT THE FUSS

Your annual review of executive compensation ("Executive pay: The party ain't over yet," Cover Story, Apr. 26) noted that some boards of directors have begun to give executive pay tougher scrutiny. The \$47 billion New York City pension funds have been working to make boards more independent so they are better able to link pay and performance.

This year, the funds sponsored shareholder resolutions at four companies calling for a compensation committee made up solely of independent, outside directors, with access to outside compensation consultants. The four companies were Bally Mfg., W.R. Grace, Polaroid, and USF&G. Instead of battling us at the Securities & Exchange Commission or at annual meetings, the companies accepted the proposals without a vote and are forming independent compensation committees. I urge other companies to adopt this reform without waiting for a resolution to be filed.

A strong, independent board can play a vital role not only in linking pay and performance but also in helping management achieve good performance.

Elizabeth Holtzman
 Comptroller
 City of New York
 New York

SOME THOUGHTS ON CHINA, PAST AND PRESENT

Your commentary, "The best way to change China is from the inside" (Special Report, May 17) could not be more wrong.

The commentary concedes that China needs most-favored-nation trading status and suggests that we continue it, but in exchange for what? Absolutely nothing. You acknowledge that China craves resumed military contacts with the U.S. and suggests that we resume them, but in exchange for what? The release of more political prisoners.

Evidently, you are entirely oblivious to China's long-standing practice of using advances in military technology to make

its regime of terror ever more efficient.

In short, while piously mouthing the rhetoric of engagement instead of isolation, the commentary advocates throwing away our leverage without extracting substantial concessions from China.

A policy to induce real change might begin with an offer to continue China's MFN trading status when China agrees to allow international monitoring of its prisons and detention centers and to submit the question of Tibetan self-determination to binding adjudication by the International Court of Justice. It might then continue with an offer to resume military contacts when China agrees to separate its military and police forces and to verifiable prohibitions against using U.S. technology for internal surveillance.

Andrew G. Dulaney
 San Francisco

When do business opinion leaders begin taking Asian economies seriously? Only when American trade deficits with them are nearing insurmountability? ("China," Special Report, May 17).

Your report on China foresees that vast, rapidly expanding nation as not competing "as directly with U.S. or European technology-based industries as Japan does." Sounds suspiciously like the underestimations made of South Korea, Taiwan, Singapore, and, yes, Japan itself in decades past.

With 1.2 billion people and double-digit economic growth, perhaps we should see China as a formidable future competitor, not just an immense market and low-cost manufacturing center.

Eric Chait
 New York

Your story is consistent with most Western reporters' accounts. Most reporters, however, seldom travel beyond the Great Wall or the (admitted) miracle of Shenzhen. Amazed by the apparent "capitalism" of China, they miss out on a different sort of reality.

A few points to consider:
 ■ To raise standards of living nationally to Taiwanese standards, China would need to increase gross domestic product by \$5 trillion in real terms. This will

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Readers Report

not happen within the next hundred years.

■ Growth is centered in South China, in Fujian province, and in some northern areas where Japanese and Korean investment has been channeled. It is not a universal phenomenon.

■ Right now, the Chinese propaganda machine is cranked up to convince foreigners that China is moving toward capitalism and everyone will get rich. This is intended to spur on renewal of most-favored-nation status, reduce pressure on China, and promote investment.

■ Export growth is enormously inflated by the value of goods that are imported from Taiwan, Japan, and Hong Kong and then reexported as "Chinese" products. China is providing a good way for Japanese, Koreans, and Taiwanese to increase their exports to the West while hiding them in China's trade balance.

To be sure, China is changing. But its primary asset remains its labor—an advantage that the Chinese government is clearly using to challenge Japan's preeminence in East Asia. Paradoxically, this use of human capital is completely consistent with Marxist doctrine, which urges the use of the economic strength of the masses as a method for achieving political ends. Is it possible that Westerners have mistaken and misunderstood the fundamental goal of the Chinese government—to raise the overall living standard through methods that we would find abhorrent?

Timothy Gollin
Houston

STAYING IN THE PINK WITHOUT DROWNING IN GREENS

As an older adult—age 78—I much prefer to take inexpensive vitamins available by mail instead of eating daily amounts of, say, 14 cups of collard greens or 23 cups of broccoli to obtain the same benefit. ("The FDA's war of the rose hips," *Top of the News*, May 17). There are myriad reports showing proven benefits of supplements. Some of the FDA's proposed actions would greatly increase health costs and cause more sickness and death by choking off supplements and sending patients to doctors who are uninformed and uneducated in nutritional matters.

Gerald C. Whitney
Stockton, Calif.

USE THE CIA TO THWART INDUSTRIAL SPYING

I am sympathetic to the argument that the Central Intelligence Agency should not be put to work in an offensive way for American business ("Why pinstripes

don't suit the cloak-and-dagger crowd," *Top of the News*, May 17). I see merit, however, in putting the CIA to work in a defensive way.

Given that our friends, allies, and former enemies are all feverishly spying on us, it seems a safe bet that economic espionage on their part isn't about to go away. Therefore, I can't see any reason why the CIA would not deploy its considerable counter-espionage capabilities in the service of American business. Indeed, I would consider that an honorable calling.

The chief drawback to this defensive use of the CIA is the difficulty in determining just what is and isn't an American business—or a French business, for that matter. Wouldn't it be ironic if it turns out that the French have been spying on themselves?

F.W. Nickols
East Windsor, N.J.

SHOPPING FOR A HOME COMPUTER? CHECK OUT THE AMIGA

I am writing in response to "Buying a computer for your kid is child's play—almost" (*Personal Business*, May 10). I am disappointed that the Amiga was omitted as a viable option as a home computer.

For \$800, an Amiga 1200 system can be purchased that rivals a 386 or even a 486. Sixteen million colors (256 at one time) and four-channel stereo sound come standard with the machine (no need to keep buying cards to get those features). And it has a sleek, true multitasking operating system that is a joy to work with. It has a tremendous amount of software available. I feel an Amiga is the best choice for a home computer.

Jerry Foster
Flint, Mich.

SAVING THE EARTH—AND MAKING MONEY

May the gods of capitalism and common sense be praised!

Your article "Quick, save the ozone" (*Science & Technology*, May 17) concerning chlorofluorocarbon substitutes and the market leadership of Imperial Chemical Industries served to confirm a belief that I have about the ingenuity and innovation of our world's corporate community: There is nothing too great for common and committed minds to overcome. The recognition of the problem and the willingness to take long-term action serves to set ICI apart from the number of corporate behemoths that cling to old methods and means, in spite of themselves. The company is to be commended for taking a leadership role.

I also recognize that neither ICI, nor the other two chemical companies mentioned (DuPont and Elf Atochem), do this out of the "goodness of their corporate hearts." There was a true profit motive behind their efforts. Yet, it is the anticipation of the fervor for identifying the need and leading the change that should command our respect. Moreover, they have done "the impossible" in a time frame that would make most companies their size balk.

I have worked with corporations from dozens of industries, most recently and intensively within chemicals and pharmaceuticals. The global corporate community does have a responsibility to itself, its member corporate states, society at large, and most important, to the earth that hosts us all.

Jonathan P. Kirchner
Wayne, Pa.

CHRYSLER'S WRONG TURN IN JAPAN

I was disappointed to read "Chrysler's Neon" (*Cover Story*, May 3) that Chrysler would export this new model only to Japan "if [U.S. and European] demand falls short." Such a revelation is an open admission of the lack of priority Detroit places on U.S. auto exports to Japan. Ironically, this comes at a time when U.S. car companies are wailing about Japanese auto market accessibility. This lack of commitment to the Japanese market only serves to fuel the Japanese argument that "U.S. manufacturers don't try hard enough" and tarnishes the efforts of those companies that currently are trying to establish themselves in Japan.

C. "Red" Gill
Osaka, Japan

HIGHER TAXES WON'T TEACH THE U.S. TO SPEND LESS

In "Washington fiddles, the economy drifts" (*Editorials*, May 17) you make the statement: "And if [spending] cuts are made, Republicans must agree to higher taxes—if not corporate taxes, then certainly consumption, such as energy." This statement is absurd. The problem with the U.S. government is not a shortage of revenues but a surplus of spending. Only by accepting this fact and managing the excessive spending can the U.S. get its house in order.

Jack Halpern
Warner Robins, Ga.

Letters to the Editor should be sent to Readers Report, Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax (212) 512-4464. All letters must include an address and daytime and evening telephone numbers. We reserve the right to edit letters for clarity and space.



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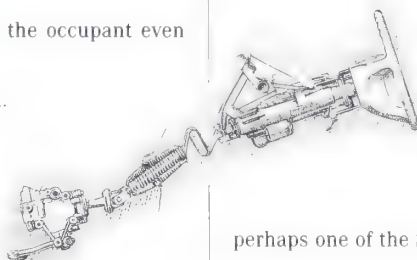
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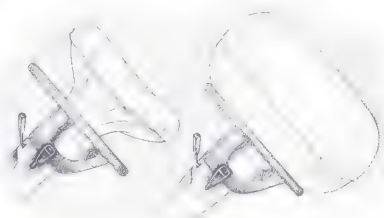
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THE FIFTIES

David Halberstam

Villard Books • 800 pp • \$27.50

THEY LIKED IKE, LOVED LUCY, AND LISTENED TO MCCARTHY

Readers of David Halberstam's *The Fifties* will likely fall into at least two groups: younger people who think of that remote decade as a subdivision of ancient history, and my generation, for whom the book will be a trip down memory lane. Both groups will find Halberstam's vigorously written, fact-filled narrative absorbing, informative, and sometimes troubling. All in all, the Fifties did not display the U.S. in its finest light.

In the years since, the major events and personalities of the Fifties have been extensively examined in books, articles, and documentaries. Halberstam has pored over these secondary sources, supplementing them with his experiences as a reporter during the decade, as well as with recent interviews, and has shaped a fresh account. Inevitably, depending on one's age and history, much of what he discusses will be familiar. But there is so much here that every reader will make discoveries. Moreover, Halberstam writes vividly, using colorful details and lively anecdotes to move his story forward and offering frequent value judgments. Knowingly or not, he follows Thomas Carlyle's observation that history is the essence of innumerable biographies: He builds his narrative around incisive word-portraits of dozens of men and women who played leading roles in the decade's tumultuous events.

His book reaffirms the ambivalent feeling toward the Fifties that I share with many friends. They were years of expanding horizons for my contemporaries and me—then in our early 20s, fired with the usual hopes and dreams. After sowing a regrettably modest crop of wild oats, we found jobs (not hard in those boom times), got married, and had children. Some of us moved to the suburbs, where we bought cars, houses, and, with some misgivings, TV sets on which to watch Milton Berle in drag.

Halberstam captures this pervasive sense of upheaval and opportunity, de-

scribing at length the explosive growth of suburban America and the new, automobile-based market of young families. Some astute businessmen profited from these demographic changes. Halberstam traces the careers of, among others, William Levitt, builder of Levittown; Kemmons Wilson, who created the Holiday Inn motel chain; and Ray Kroc, who made McDonald's hamburgers part of the national diet. At the time, most people thought of this as progress.

The decade also had its dark side. The cold war, inherited from the late

Maybe, but it had many rivals. Senator Joseph McCarthy, fueled with a notorious mixture of facts, rumors, and lies from Hoover's secret files, persuaded many Americans the U.S. was riddled with commie traitors. Ferreting out subversives became a national obsession. The House Un-American Activities Committee moved into high gear, and blacklists began circulating. Halberstam aptly terms those years "a mean time."

True, there were bright spots. On May 17, 1954, the Supreme Court unanimously struck down racial segregation in public schools. One bitter fruit of that decision, though, was a decade of entrenched resistance in the South. A constitutional crisis erupted in Little Rock three years later, when Arkansas Governor Orval Faubus used his National Guard to stop nine black children from attending a previously all-white school. By this time, TV cameras were on hand to record a hate-filled mob screaming

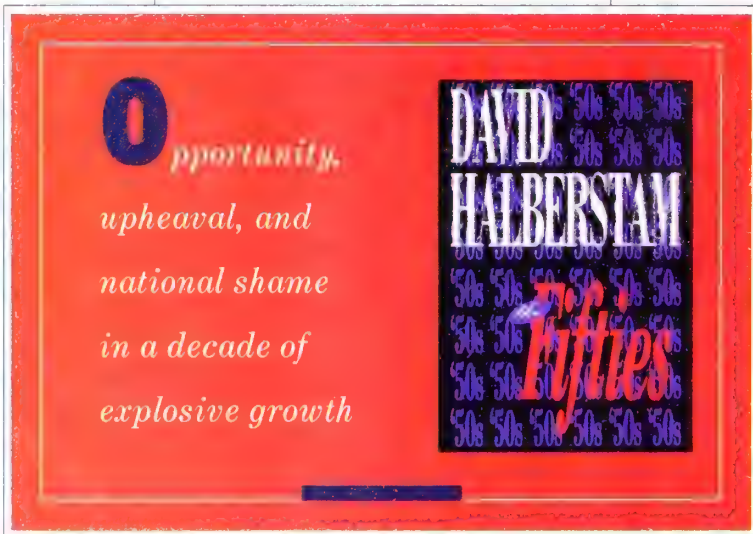
"Lynch her!" at a frightened little girl. As Halberstam says: "The whole nation and soon the whole world could watch America at war with itself."

It was not the Fifties' only war. At the start of the decade, the U.S. had more or less blundered into a costly, ill-defined "police action," in Truman's words, in Korea. With TV in its infancy, the war was fought largely out of sight and mind of most Americans. A few years later, the government decided it should pick up the colonial burden that the French were all too wil-

ling to lay down in Indochina, and the U.S. began its march toward the quagmire of Vietnam.

In 1953, the U.S. introduced a colorful new type of foreign policy initiative: the CIA-run covert operation to overthrow foreign governments. Secretary of State John Foster Dulles and his brother, Allen, who ran the CIA, were particularly fond of such enterprises, not least because they were relatively cheap. Sad to say, President Dwight Eisenhower reluctantly supported them. Their first target was the erratic Prime Minister of Iran, Mohammed Mossadegh, who had nationalized the British oil companies there. Young Kermit Roosevelt, TR's grandson, who Halberstam says inspired Graham Greene's *The Quiet American*, led an operation that removed Mossadegh from office and converted Iran, under the pliant Shah, into a U.S. client.

Delighted, the Dulles brothers focused



Forties, was stalemated in Europe but heating up in Asia. Most citizens were half convinced the U.S. and the Soviet Union would eventually blow each other up—especially after both developed the H-bomb, 10 times more destructive than the bomb dropped on Hiroshima.

In January, 1950, President Harry Truman decided to push ahead with the thermonuclear bomb. Halberstam writes a riveting account of the struggle over its development, particularly between physicists J. Robert Oppenheimer and Edward Teller. Atomic Energy Commission Chairman Lewis Strauss, allied with FBI Director J. Edgar Hoover, had Oppenheimer, who opposed the bomb, declared a security risk because of his left-wing ties. It was poor payment for his service during the war, when he led the team that built the atomic bomb. Halberstam calls this episode "one of the lowest moments in American politics."

what they saw as a problem closer to me: Guatemala. Not even the communists could have invented a better model of an impoverished banana republic. But in mid-1954, its leftist President, Jacobo Arbenz, made the mistake of expropriating some land owned by United Fruit Co. So the CIA got him to sign—largely, as Halberstam tells it, by broadcasting false warnings that a rebel army was marching on the capital. Evelyn Waugh, meet the CIA.

Government and politics are Halberstam's strong suits. He does less well on the social front, where he presents various icons of popular culture as emblems of momentous change. Elvis Presley's music "symbolized the coming together of black and white cultures into the mainstream." Marlon Brando and Tennessee Williams "reflected a new and more tolerant order," as did Grace Metalious, who wrote *Peyton Place*, and Hugh Hefner, founder of *Playboy*. Here Halberstam seems to sense earthquakes when others would feel only tremors. He also traces the careers of feminist Betty Friedan and women's-rights pioneer Margaret Sanger, a driving force in the development of the Pill.

More significant, the Fifties saw the growing impact of television, as explored in its way as the H-bomb. As Halberstam makes clear, TV transformed entertainment, advertising, and politics—largely by making them harder to tell apart. Advertising genius Rosser Reeves convinced politicians that short, punchy spots could sell candidates far more effectively than long, boring speeches about issues. Image began to triumph over substance, and, at least sometimes, over the common sense of voters.

TV's grip on the nation became clear from one of the era's seedier episodes. On Nov. 2, 1959, Charles Van Doren, a young teacher, confessed to a congressional committee that the quiz show *Twenty-One*, which had made him one of television's first instant celebrities, was rigged in every detail. The show's producers vainly argued that they were only trying to make it more entertaining, but millions of viewers expressed outrage that their trust had been betrayed. Today, after more than 40 years of television, would anybody even be surprised?

So, the decade ended with a whimper. My friends and I were glad to see it, and with it, the generation that had been running things. We wanted change and pinned our hopes on John F. Kennedy, the appealing young senator from Massachusetts who was set to run for president. Vain hopes, vain regrets. But that's another decade, another story.

BY JACK PATTERSON

Jack Patterson, now retired, joined the staff of BUSINESS WEEK in 1955.



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CREATING THE RIGHT CHEMISTRY



THE UNBEARABLE COSTS OF CLINTONOMICS

BY PAUL CRAIG ROBERTS



The ideologues in the Clinton Administration associate government with morality. That will wreck the U.S. economy

When Senator Herb Kohl (D-Wis.) expressed concerns about the political implications of the Clinton Administration's cavalier attitude toward the taxpayer, Hillary Rodham Clinton replied that social needs had to be met and that the tax question was one of morality, not politics. That's putting a fine gloss on the plunder that is in store for U.S. taxpayers.

Never before in history has such an extraordinary array of new taxes been planned for the American people. There are higher tax rates on personal, corporate, and Social Security income, a comprehensive energy tax that we will pay every time we use energy or purchase a good or service, a massive addition to the payroll tax, and an increase in the marriage penalty. These taxes would have a devastating impact on incentives, disposable income, employment, and families. Yet little attention has been paid to the economic and social effects of this punitive tax package.

MISSING SCREAMS. Instead, President Clinton and his henchmen, such as the reprieved suspect in the House Post Office scandal, Ways & Means Chairman Dan Rostenkowski (D-Ill.), are preoccupied with the mechanics of passing the tax bill. Rosty has plied 50 large corporations with tax concessions and enlisted them as cheerleaders for a tax package that will wreck the U.S. economy. Clinton has promised that he will put the several hundred billion dollars siphoned out of aggregate demand into a "deficit-reduction trust fund."

This powerful deflationary imagery of the Treasury draining the economy of purchasing power while it sinks into recession would, in times past, have brought screaming protests from liberal economists. How, they would have demanded to know, could such large sums be drained from consumer spending, personal savings, and corporate revenues and still have the same quantity of goods and services sold, people employed, and business investment?

When puzzled reporters ask this question, Administration spokespersons respond with denial of reality. On *Meet the Press* recently, Treasury Secretary Lloyd Bentsen implied that the tooth fairy was going to pay the tax when he claimed that the tax plan is designed to "reduce the deficit substantially" without costing taxpayers anything: "The first year, for example, it's going to cost the average family making \$40,000 a year \$1 a month."

Clintonomics is a textbook example of economic mismanagement. The proposal to fund a federal health-care plan with a payroll tax in lieu of employer-paid insurance premiums would approximately double the employment tax and raise the marginal tax rate on much of

the middle class to 60% or 65% (combined state and federal income and payroll taxes). People who only get to keep \$3.50 or \$4 of every additional \$10 earned are unlikely to be well-motivated or big savers.

The energy tax is a double whammy. It will raise costs and prices while draining consumers of disposable income. Moreover, the energy tax enters directly into the inflation rate, and the plan to phase the tax in over four years means four annual boosts in the price level—which will set off alarm bells at the Federal Reserve. It is absurd to promise lower interest rates from a tax that is going to drive up prices.

The increase in personal, corporate, and Social Security income taxes will dramatically reduce aftertax earnings from savings and investments. Today's low interest rates cannot fall enough to cut investment costs as much as the higher taxes reduce investment income.

The plan to tax 80% of Social Security benefits for single/married retirement income above \$25,000/\$32,000 will cause people approaching these thresholds to reduce their retirement savings in order to avoid the tax. What's the point of saving if the reward is higher taxation on retirement income?

Whether viewed from the demand side or the supply side, the Clinton tax plan is a death blow to economic activity. The biggest gimmick in Clinton's plan is not his "deficit-reduction trust fund" (which, like the Social Security trust fund, will contain nothing but government IOUs), but his assumption that these taxes won't hurt the economy.

BURDENS. Clinton's tax hike will generate very few, if any, revenues. The plan's main effect will be to shrink the private sector relative to the government sector. Government and its deficit will become greater burdens as a shriveled private economy labors under stark disincentives and diminished demand.

With Europe and Japan in recession, Clintonomics is a prescription for rising unemployment that will generate more protectionist pressures. As economic frictions rise between the industrial democracies, foreign policy cohesion will further unravel. The diplomatic cost alone of the tax increase are unbearable.

The ideologues in the Clinton Administration associate government with morality and are determined to have more of it. Sweden's Ian Wachtmeister, who heads the New Democracy Party, says the 20th century's experience with big government has been lost on the Clintonistas: "We are moving away from the welfare state. On your side, you are moving into it, and you risk destroying your country." And the world economy.

PAUL CRAIG ROBERTS IS CHAIRMAN OF THE INSTITUTE FOR POLITICAL ECONOMY IN WASHINGTON



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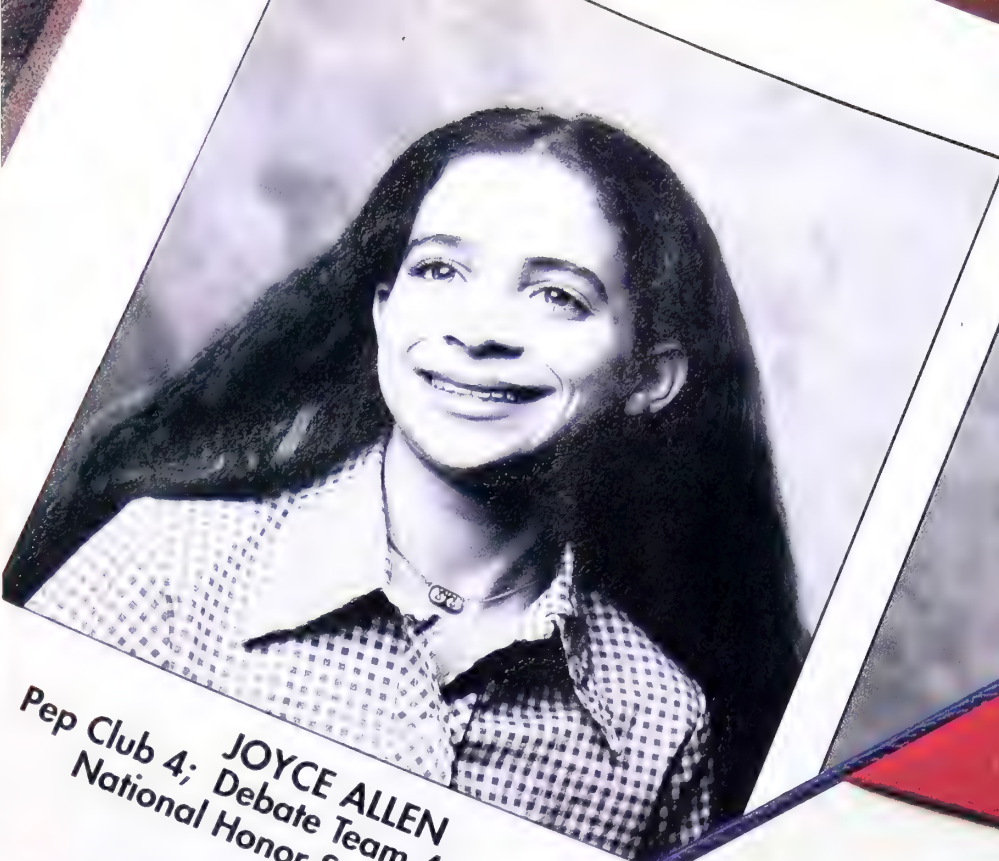
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Economic Trends

BY GENE KORETZ

COOLING U.S. INFLATION FEARS WITH A BLAST FROM THE GARDEN HOSE

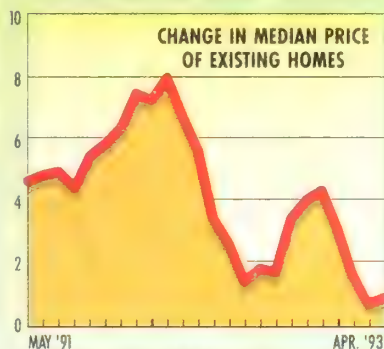
Judging by the action in the financial markets, inflationary fears are on the upswing again, bolstered by some recent bad price numbers, rising investor interest in gold, and a pickup in the money supply. Yet new declines in such key variables as real wages and industrial commodity prices strongly suggest that such fears are excessive.

One development that supports a subdued inflation outlook, says economist Edward E. Yardeni of C.J. Lawrence Inc., is the behavior of existing home

prices. "Such prices," he observes, "have an important impact on consumer perceptions and behavior." Home prices were strong in the high-growth years of the mid-to-late 1980s, turned negative after the recession hit in 1990, and surged higher as housing starts paced the economic recovery in 1991. But since early last year, they have lost considerable steam, and at last count they were running a mere 1% over their year-earlier level (chart).

Because owner-occupied housing is the main asset of the middle class, notes Yardeni, home prices have a strong effect on consumers' willingness to spend. In the 1970s and the mid-1980s, surging home prices inspired many consumers to take on debt and spend with abandon. But today's homeowners are becoming increasingly aware that the value of their homes is failing to keep pace with inflation. As a result, "they are spending less, and when they do spend, they are more conscious of prices."

HOME-PRICE INFLATION HAS FALLEN SHARPLY



Weak home prices also promise to

exert direct downward pressure on the consumer price index or so, claims economist Robert Shiller of First National Bank. Shiller notes that changing rents reflected in the CPI by "owner equivalent rent" component counts for some 20%.

Owner equivalent rent is based largely on surveys of homeowners regarding the rents their homes would command if they were rented out. A major factor in homeowners' perceptions of rental rates, says Shiller, seems to be the value of their homes, and these perceptions tend to lag behind actual shifts in home values by about a year. While growth in median home prices peaked in 1989, for example, the owner equivalent rent component hit its high in 1990.

Similarly, after home prices slumped in 1990, the equivalent rent measure followed suit in 1991, and, aside from one uptick, has been trending even lower this year. With home prices still weak, Shiller says this key component will restrain the CPI for some time to come.

AN IRA PLAN THAT COULD REEL IN THE BIG FISH

Here's a dilemma. Recent research by Douglas Bernheim of Princeton University and John Scholz of the University of Wisconsin finds that college-educated Americans are far more responsive than high school graduates to individual retirement accounts and other savings-targeted tax incentives. Yet college grads also tend to enjoy considerably higher incomes and are thus far more likely to garner tax deductions for money they would have saved anyhow. Partly for this reason, current law allows no tax deductions at all for contributions to IRAs made by relatively affluent taxpayers, such as couples with adjusted gross income exceeding \$50,000.

Is there a way to capitalize on the responsiveness of the college-educated to IRAs while limiting their ability simply to shift current savings into such accounts? In a recent National Bureau of Economic Research study, Bernheim and Scholz offer a proposal to do just that.

Under their scheme, couples with moderate incomes up to \$34,000 could still put as much as \$4,000 into IRAs, as they do now. But higher-income households would have to save a minimum amount on a nondeductible basis before they became eligible for the tax benefit. If a couple with an income of \$80,000 made a "floor" contribution of \$8,000 to an IRA, for example, they could obtain a

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Government loss of tax revenue. At the same time, it would vastly increase savings by adding over a million savings-prone households to the group currently eligible for IRAs.

EUROPE IS RESTRICTING ITS MONEY—AND ITS RECOVERY

Signs that recovery is faltering in Britain and recessionary forces strengthening in Germany, France, and Spain do not bode well for Europe's near-term economic outlook. What makes prospects even more dismal is the fact that most European countries are pursuing contractionary macroeconomic policies.

On the monetary side, economist William P. Sterling of Merrill Lynch & Co. points out that real short-term interest rates in many European countries remain relatively high—despite recent rate declines—as recessionary forces have quelled inflation. Current inflation-adjusted short-term rates range from about 3% in Germany and Britain to 5% in France and 6% in Italy and Spain.

Meanwhile, economists at Oxford Forecasts Ltd. estimate that current fiscal tightening could subtract nearly a percentage point from gross domestic product this year in Western Europe as a whole and double that in countries such as Italy and Sweden. If European nations continue to try to meet the fiscal criteria for European monetary union, warns the consulting firm, fiscal policies may stay relatively tight through 1994.

GRIMMER JOB-LOSS NUMBERS FOR AMERICA'S DEFENSE INDUSTRY

If you think defense cutbacks have hurt employment, you haven't seen anything yet. According to a new Labor Dept. study, although some 900,000 defense-related jobs vanished from 1989 through last year, the loss will come to an additional 1.9 million by 1997—with the private sector accounting for 1.2 million. And that's only jobs directly affected by defense spending. With multiplier effects, private experts estimate the coming carnage could top 5 million

WILL THE BOND MARKET AND THE FED DESERT CLINTON?

President Clinton strode into 1993 with big economic plans and two key allies: falling long-term interest rates and a friendly Federal Reserve. Now, the bond market, thoroughly disillusioned, has pushed long rates back up. And the Fed appears to be holding a loaded pistol, ready to fire off a hike in short-term rates at the slightest provocation from the price indexes.

It's a combination guaranteed to make the White House squadder. The Administration needs low interest rates to offset the fiscal drag from its proposed deficit reduction. Otherwise, it risks a sour economy—or even recession—in 1994, when the raft of new taxes needed to pay for its economic program starts to kick in.

Little wonder then that consumers continue to lose faith in the future (chart). That probably reflects the fear that higher taxes will rob income in an unsettled job climate. And the uncertainty over the future of the Administration's budget proposals has put business in a bind. For example, durable-goods orders were flat in April, suggesting some hesitancy at ordering

big-ticket items, although retailers' efforts to work down inventories is also holding back factory demand.

The situation, however, is not as bad as it looks. Households may say they are downbeat, but sales of cars and homes are holding up. The bond market's worries about inflation are exaggerated, as are its fears that Clinton's budget package is about to explode. And finally, it seems highly unlikely that the Fed is about to embark on a major campaign to tighten monetary policy.

ALL EYES WILL BE ON THE MAY CPI

To be sure, the Fed cannot ignore recent signs of faster inflation, if only to maintain its credibility in the financial markets. Indeed, following a recent report in the business press, speculation is rife that the Fed shifted its policy predisposition at its May 18 meeting to one of tightening from that of steady-as-she-goes.

The central bank has not issued such a directive in our years. It usually gives Fed Chairman Alan Greenspan the authority to hike the federal funds rate by as much as half a percentage point, if warranted. But the economic fundamentals argue overwhelmingly that the recently unruly price indexes will settle down.

Nevertheless, all eyes will be on the May consumer

price index, due out on June 15. A gain of 0.2%—a 2.4% annual rate—or less would clearly mean no tightening. But a rise of 0.4%—a 4.9% annual rate—would cause the Fed to pull the trigger. A 0.3% increase is the tricky call. Regardless of the number, the breakout between the total and the core indexes will sway any policy decision.

One thing that will not influence Fed policy is the recent surge in the money supply. The broad M2 measure jumped by \$20.1 billion in the week ended May 10, after a \$13.2 billion surge. The two-week gain was the second-largest on record.

The ups and downs in M2 have more to do with this year's anomalies in the flow of tax payments and refunds than with fundamental factors. Despite the surge, M2 remains below the Fed's growth targets (chart), as people shift funds out of small-time deposits, which are part of M2, and into stock and bond funds, which are not. Because of these distortions, the Fed says that it largely ignores M2's gyrations in the formulation of policy.

A MURKY OUTLOOK IS SPOOKING CONSUMERS

As for long-term interest rates, the bond market is worried that inflation is about to flare up and that Clinton's lack of political savvy will kill chances for deficit reduction. The rate on 30-year Treasury bonds now stands at about 7%, up from a low of 6.73% four weeks earlier. By the Administration's own measure, that robs the economy of almost \$30 billion worth of stimulus.

New White House efforts at compromise, however, especially with members of its own party, are increasing the chances for a deficit-reduction package. Moreover, the eventual budget mix could be slanted more toward spending cuts and less toward tax hikes—more to the bond market's liking. A final budget plan will remove the uncertainty now plaguing business, and it will shore up households' flagging faith in the future.

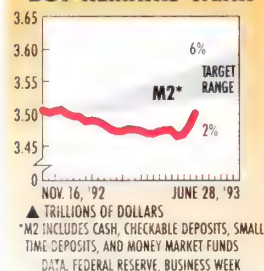
Indeed, the month of May was anything but merry for consumers. The Conference Board's index of consumer confidence slid more than six points, to 61.5. The big tumble came in expectations for the future, which fell to 72.2 from April's 81.1. The prospect of paying more taxes—whether to fund deficit reduction or health care—is cutting into expected income growth.

Confidence has been sliding since December, but this

JOBS AND TAXES CLOUD THE FUTURE

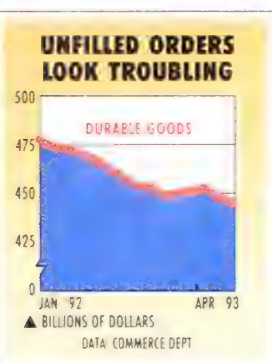


MONEY REBOUNDS, BUT REMAINS WEAK



Business Outlook

may reflect declining trust in Clinton rather than in the economy. Indeed, sales of U.S.-made cars rose to an annual rate of 7.4 million in mid-May, the highest 10-day pace this year. The housing market also remains on solid ground. Sales of existing homes increased by 2.7% in April, to an annual rate of 3.46 million.



Certainly, jobs remain uppermost in the minds of consumers. The lackluster April employment report, released in early May, probably heightened worries about the economy's footing. The Conference Board reported that only 13% of those asked in May think there will be more jobs by yearend. That's the lowest reading on future hiring in more than a year.

But even here, perceptions may be worse than reality. A survey by Manpower Inc. suggests that hiring will pick up in the third quarter, although job growth in the West remains weak. And a Dun & Bradstreet Corp. survey of 5,000 businesses projects a gain of 2 million jobs this year, with most coming in the second half.

D&B says, however, that corporations with more than 25,000 workers plan, on average, to cut payrolls. Since lay-off announcements by large companies generate headlines, the notion that hiring is weak may persist into next year, even as small concerns expand their payrolls.

Businesses may be reluctant to hire because the uncertainty of Washington policy makes the future so vague. That incertitude is probably hampering other decisions as well. Demand for big-ticket items is suffering. Durable-goods orders were unchanged in April, after a 3.4% decline in March. As a result, unfilled orders fell by 0.6%, to their lowest level in 4½ years (chart).

New orders had soared in December, as corporations anticipated Clinton's proposed investment tax credit, now

all but dead. Once burned, these companies will likely wait for the final budget details before ordering more capital goods. When the budget squabble is finished, perhaps by August, the drag on the economy will ease.

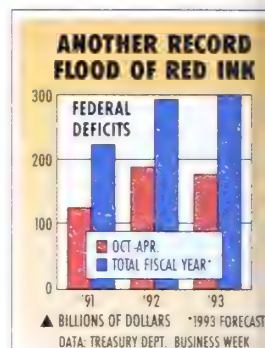
THE BUDGET GAP WILL WIDEN THIS SUMMER

Ironically, Washington's attention to deficits in future years masks the improvement in fiscal 1993 finances. Through April, the 1993 deficit is running \$10 billion below its total for the first seven months of 1992.

Rising tax receipts and a slowdown in outlays are stanching the red ink. Receipts in the first seven months are up by 4.4% from a year ago. Corporate tax payments have ballooned by 16.2%, thanks to the rebound in business profits. Outlays, meanwhile, are up just 2.1% from 1992. Low rates have cut interest payments by 1.6% this year, and defense spending has also declined.

Unfortunately, though, the improvement won't continue. Congress' refusal to fund the Resolution Trust Corp. has reduced outlays by \$12.5 billion since October. Now, Congress is moving to approve more money for the thrift bailout. Those extra funds mean the 1993 deficit could very well total a shade over \$300 billion. While that figure will still eclipse last year's record of \$292.2 billion (chart), it will come in less than the White House's projection of a \$310 billion shortfall.

So far, the Clinton Administration's Keystone-Kop approach to economic policy has alienated the financial markets and the voters who elected him. But Clinton's touchy-feely, conciliatory brand of politics may yet work, shoring up support for the President. And as long as inflation slows down again, the Fed will remain one of the most important Friends of Bill in Washington.



THE WEEK AHEAD

CONSTRUCTION SPENDING

Tuesday, June 1, 8:30 a.m.

Construction spending probably increased by 1% in April, bouncing back after a 0.8% drop in storm-beset March.

NAPM SURVEY

Tuesday, June 1, 10 a.m.

The National Association of Purchasing Management's index of industrial activity likely rose to 50.5% in May, up from 49.7% in April. The gain would indicate that the factory sector is growing again.

PERSONAL INCOME

Tuesday, June 1, 10 a.m.

Personal income probably edged up just 0.2% in April, say economists surveyed

by McGraw-Hill Inc.'s MMS International. Income was up by 0.6% in March, lifted by farm subsidies. Consumer spending likely rose a stronger 0.8% in April, after slipping 0.2% in March.

LEADING INDICATORS

Wednesday, June 2, 8:30 a.m.

The government's composite index of leading indicators probably rose 0.5% in April, the MMS economists project. In March, the index dropped a sharp 1%.

NEW SINGLE-FAMILY HOME SALES

Wednesday, June 2, 10 a.m.

New houses likely sold at an annual rate of 650,000 in April, up from 637,000 in March. Low mortgage rates and better labor markets are keeping the housing

rebound going. The expected April sale number would be the best this year.

EMPLOYMENT

Friday, June 4, 8:30 a.m.

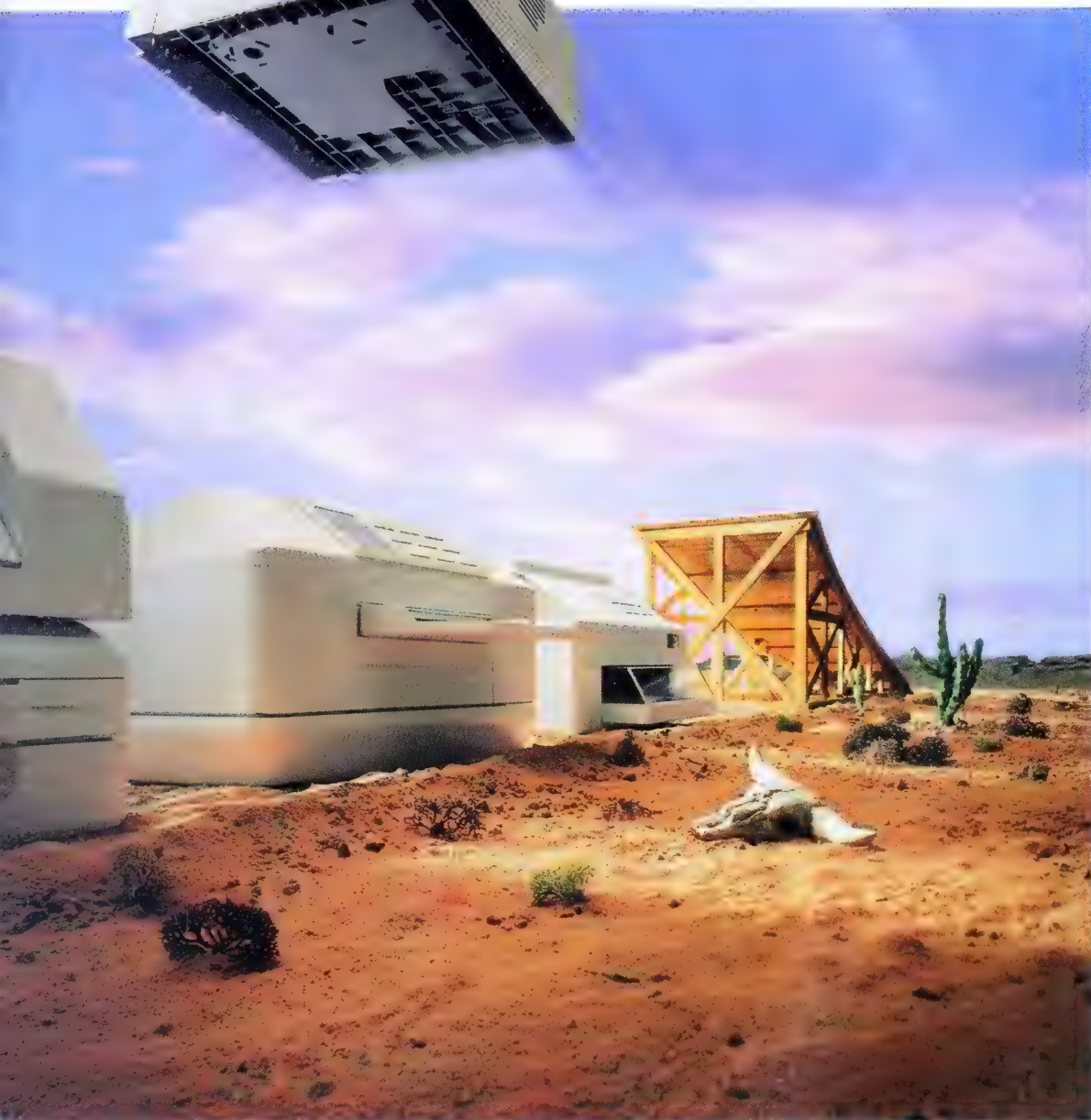
The median MMS forecast calls for a 125,000 rise in nonfarm payrolls in May, just a bit better than the 119,000 jobs created in April. The range of forecasts, however, is slanted toward a larger May increase. Even the lowest projection is for a 95,000 gain. May's unemployment rate is expected to remain at 7%.

FACTORY INVENTORIES

Friday, June 4, 10 a.m.

Manufacturers' inventories probably rose by 0.2% in April, the same small gain as in March.

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Your time has come. Now you can make the leap to laser printing for just \$849. Introducing the new HP LaserJet 4L printer.

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The new HP LaserJet 4L. Just \$849.



BESTING JAPAN

U. S. BUSINESSES BATTERED BY JAPAN INC. ARE FIGHTING BACK—AND WINNING

It happened so suddenly. Detroit's Big Three, which spent most of the 1980s being hammered by Japan saw their fortunes rally last year. Thanks to heavy investment, savvy market research, and a dose of government protection, Yankee carmakers are winning back market share for the first time in nearly a decade. There's a kicker, too. This year, a soaring yen has made Japanese cars more expensive, boosting the Big Three's share of the U.S. auto and light-truck market in the first quarter to 74.9%—2.7% more than in 1992.

Detroit isn't celebrating alone. From sea to shining sea, U.S. companies that Japanese rivals had on the ropes during the 1980s are now duking it out and winning. Take computers. Two years ago, Compaq and IBM were neck-and-neck with Japanese competitors Sharp, NEC, and Toshiba for control of the U.S. laptop market. Today, the Americans hold 62% of total sales, vs. 20% for Japan (page 28). Similar success stories are shaping up in everything from semiconductor-fabrication equipment, where the Americans last year picked up market share for the first time since 1988, to earthmovers and auto parts. It's happening in service industries, too: U.S. banks are grabbing back corporate-loan clients they once thought Japan had permanently stolen.

HONDA HURTING. How are the Yanks doing it? Certainly, years of restructuring have made U.S. companies stronger. But Corporate America is also benefiting from weaknesses that have sapped the drive of many Japanese companies. A feeble home economy has eaten profits, forcing Japan Inc. to retrench and shelve overseas expansion plans. Meanwhile, political pressures, including U.S. tariffs, are compelling Japanese companies to export less and buy American. On top of that, the yen has soared 12%, to 110 to the dollar, since late January—its highest level ever.

Further intervention is in the

offing from Uncle Sam, too. President Clinton is about to announce a new strategy for trade relations with Japan aimed at getting the Japanese to increase their imports by 33% over the next three years. The proposal focuses on opening markets such as autos and auto parts, financial services and insurance, and electronics. Clinton also hopes to persuade Japan to increase its procurement of foreign goods and to eliminate structural impediments to foreign companies built into its economy.

Add it all up, and U.S. companies are getting a sudden—and surprising—boost over their Japanese rivals. When pressed, NEC Corp. executives admit that financial problems at home have crimped their ability to expand in the U.S. laptop market. The company estimates that it lost more than \$390 million in the fiscal year ended last March. Honda Motor Co., which saw its net income fall 41%, to \$344 million, on sales of \$37.6 billion in the year ended Mar. 31, is also hurting. One effect: Last year, 16% of the 393,477 Accords that

Honda sold in the U.S. were made in Japan. Now, the company is considering shutting off Accord exports to the U.S. altogether. Notes Tenneco Automotive President John P. Reilly: "Increasingly the pure economics are on the side of U.S. producers."

For now, anyway. Japan surely isn't down for long. "Japanese companies remain fierce competitors," cautions James C. Morgan, chief executive of Applied Materials Inc., a manufacturer of chipmaking equipment. Indeed, some Japanese analysts predict that an improved economy and cost-cutting by companies will spark a revival in Japanese corporate earnings as early as this year. And it's no accident that the U.S. trade deficit with Japan jumped by 23%

to \$4 billion, in April. That's partly because the stronger American economy sucked in imports while a slow growth economy curbed Japan's appetite for imports. But the numbers are also a testament to the continued strength of Japanese export industries in



**WHERE
AMERICA
IS GAINING**

*Thanks to politics, recess
and a surge in the yen, U.
companies in many indus-
tries are making advances
against Japanese rivals*

face of weak markets all around the world. In the longer haul, though, the strong yen is likely to make Japanese exports increasingly uncompetitive. Indeed, the effects of the runaway yen are likely to take two years to be felt, says Massachusetts Institute of Technology economist Paul R. Krugman. Meanwhile, political pressure for gentler Japanese trade practices will grow.

Hardball politics is a major factor behind U.S. gains. U.S. chip companies, for instance, have gotten a big hand from the U.S. government, which has been pushing Japanese electronics companies to buy 20% of their chips from designers. And back in 1991, when President George Bush visited Tokyo, he expected a commitment from Japanese manufacturers to increase their purchases of U.S.-made auto parts to \$19 billion worth in the year ending in March, 1995. Last Mar. 31, Japanese spending had \$13 billion, up 44% since 1990. "We're increasing our sales and order book increase because of those commitments," says Caterpillar Inc. Chairman Joseph T. Gorman. The soaring yen is accelerating the American trend. Tenneco's Reilly says that with the yen at 110, American auto parts producers have a cost advantage

over their Japanese rivals. The currency shift "makes American parts easier and cheaper to purchase," says Iwao Okijima, senior managing director of Toyota Motor Corp.

And in some cases, U.S. companies have simply positioned themselves better than Japan—at least for now. U.S. manufacturers of semiconductor-making equipment, for instance, picked up almost four points of market share in the U.S. last year and more than two points in Japan. Japanese semiconductor manufacturers helped by holding back on capital spending, which cut the market share for Japanese equipment suppliers. But key U.S. rivals also brought the right products to market at the right time. Applied Materials, for one, builds the machines needed to fabricate the latest sophisticated multilayer semiconductors—a critical skill that few rivals have yet mastered. Japanese companies dominate older, more competitive markets.

Japan's lagging economy is making things even easier on U.S. companies. Japanese banks were major players in the market for big corporate loans before they began retrenching in 1991.

During the first quarter of 1993, according to Loan Pricing Corp., a New York research company, Industrial Bank of Japan was the only one of Japan's banks among the top 20 syndicators of dollar loans. But it ranked just No. 15 and only did seven deals. The leader, Chemical Bank, did 61 big syndications. Nine other U.S. banks made the list, too.

SECOND CHANCE. The Japanese banks also made some errors that are hurting them now. During boom times, for instance, many of them helped fund big, splashy resort and hotel projects. Says James Montanari, an executive with Cushman & Wakefield Inc., the big real-estate services company: "There's no one who invested in those kinds of upscale properties in the 1980s who isn't losing money now." Or take construction equipment. Komatsu Ltd., and its U.S. partner Indresco Inc., determined to stanch the red ink hemorrhaging at their joint venture, last year raised prices and ceded market share on some product lines, such as crawler loader machines, to archrival Caterpillar Inc.

The question now: Can the American gains be sustained? U.S. companies

CONSTRUCTION



CONSTRUCTION EQUIPMENT MARKET

PERCENT MARKET SHARE

1989 1990 1991 1992

CATERPILLAR 29.3 29.9 29.1 31.3

KOMATSU 13.1 12.3 11.4 11.6

SOURCE: HANDBOOK & DIRECTORY

CHIPMAKING



U.S. CHIP EQUIPMENT MARKET

PERCENT MARKET SHARE

1989 1990 1991 1992

U.S. COMPANIES

70.0 69.0 68.6 67.0

JAPANESE COMPANIES

16.8 20.0 24.2 20.2

SOURCE: SEMATECH INC.

AUTOS



U.S. CAR AND LIGHTTRUCK MARKET

PERCENT MARKET SHARE

1989 1990 1991 1992 1993*

U.S. THREE

73.5 71.6 70.4 72.2 70.9

JAPANESE COMPANIES

22.0 24.0 25.8 24.4 21.9

SOURCE: HANDBOOK & DIRECTORY

* PROVISIONAL

Top of the News

have muffed similar opportunities in the past. Back in the mid-1980s, when the yen strengthened, many companies opted to match Japan's price hikes, choosing profits over market share. This time, there's evidence that American companies may have learned from their mistakes. Wertheim Schroder & Co. auto analyst John A. Casesa expects Ford, Chrysler, and General Motors to limit

their price increases to about 4% this year, vs. 8% for Japan's auto makers.

There's other evidence that U.S. companies are serious about leveraging their short-term advantage. The Business Council predicts that U.S. companies will increase spending on new equipment 11% this year and an additional 10% in 1994. "American companies are becoming more competitive," says John McDe-

vitt, an economist with 3M Corp. "We will win back markets and retain them." Maybe, but no U.S. company—even one that's speeding ahead of Japanese rivals today—can afford to be complacent. After all, a weakened Japan and a strong yen won't last forever.

By Kevin Kelly in Chicago, with Neil Gross in Tokyo, James B. Treece in Detroit, and bureau reports

THE LAPTOP RACE: CAN THE U.S. HOLD ITS LEAD IN LAP FOUR?

The Great Laptop Saga, Chapter One: Japanese personal computer giants figure out how to cram 30 pounds of circuitry into lightweight machines. Toshiba and NEC take the lead in an exploding market. Chapter Two: American rivals figure it out, too. Chapter Three: With better technology, U.S. laptop makers Compaq, Apple, and IBM seize control of the market for notebook-size computers.

Now for the latest installment: a free-for-all. Japanese makers, notably NEC Corp. and Toshiba Corp., are coming back with new technology. Tandy Corp. has beat a retreat, announcing the sale May 26 of its GRID notebook subsidiary and two plants to AST Research Inc. for \$175 million. IBM—surprise!—is nursing a hit. Apple, meanwhile, is closing in on the No. 1 spot.

And Dell Computer Corp. is stuck in the mud. On May 25, Dell said it was pulling the plug on key notebook projects and rethinking its strategy—leaving it essentially productless in the critical laptop segment. Dell took a \$20 million first-quarter charge, knocking earnings to \$10.2 million from the expected \$28 million and slicing 23% off its share price, to 24%.

There are two morals to this tale. First, the laptop business is moving faster than any other segment in the computer world. Worldwide manufacturer shipments will jump 54% this year, to \$12.9 billion, according to researcher InfoCorp. Computer makers are falling over each other to grab share in what is still a fairly immature market.

INHERITED MESS. Second, it's becoming clear that an aggressive laptop strategy requires more than a purchasing department and an advertising campaign. The most successful players now—Apple, Compaq, and Toshiba among them—are compa-

nies that have invested heavily in their own design, engineering, and, often, manufacturing capacity.

Hence the problems at Dell, which has relied almost entirely on outside engineering and manufacturing contractors. That low-overhead strategy has worked in the company's desktop systems, which still enjoy 100%-plus revenue growth. But Dell is the only major company still without a notebook based on the industry-standard 486 microprocessor from Intel Corp. And Dell products lack the state-of-the-art displays and embedded pointing devices found on rival machines. Competitors fault Dell's suppliers, who were slow to adapt the new technologies. Dell CEO Michael S. Dell accepts some blame himself: "Fundamentally, we did not fully comprehend the complexity

involved in the design and manufacture of notebooks."

Dell has handed the mess to former Apple Computer Senior Engineer John K. Medica, who will decide how much development to contract out to big-name laptop makers—possibly in exchange for access to Dell's vaunted distribution channel. Dell already has talked with NEC and other Japanese and Taiwanese PC makers about such a deal, says a company source.

COMPETITORS REGROUPING. Rival laptop companies are making similar decisions. AST bought Tandy's laptop operations in part for the additional engineering and manufacturing capacity that could help it cut costs and speed new products to market. Likewise, Zenith Data Systems Corp., a unit of France's Groupe Bull, now resells powerful PCs made by Intel while it focuses development on laptops. "There's no margin left in [the desktop] business," says Executive Vice-President David F. O'Connor. "We'll invest in portables."

Meanwhile, the technology bar is rising ever higher and faster. Toshiba will unveil a 17-pound multimedia portable in June that features a CD-ROM drive, built-in speakers, and sound board. NEC wowed the crowd at last week's Comdex trade show with its Ultralite Versa, a modular notebook that features interchangeable screens, disk drives, and memory. And both IBM and Toshiba have incorporated slots in their computers that allow customers to plug in credit-card-size tools such as communications modems. Dell, meanwhile, is missing the action. The Laptop Saga's next few chapters may well be written without it.

By Peter Burrows in Dallas, with Gary McWilliams and Paul M. Eng in Atlanta, and bureau reports



WITH FRIENDS LIKE DAVID BOREN...

...the senator stood up to Clinton—and forced him to deal on the budget

Senator David L. Boren (D-Okla.) has made a career out of giving his friends in the White House a hard time. Although Ronald Reagan considered the conservative Democrat a valuable ally, Boren blocked the Gipper's nomination of Edwin Meese III as Attorney General until he wrested GOP concessions on an issue of importance back to the Democrats, emergency farm credit. The three-term senator also worked closely with the now Skull-and-Bonesman George Bush

on such issues as capital gains tax cuts. But before the 1992 election, Boren called for a probe into whether the Bush Justice Dept. broke the law in a case involving loans made to Iraq.

Now, the onetime government professor is giving Bill Clinton a hard time. While playing the White House point man on campaign-finance reform, Boren, 52, is trying to reshape Clinton's deficit-reduction plan. On May 20, Boren led a partisan quartet of senators proposing to cut the Administration's energy tax and slash entitlement spending more deeply than Clinton had wanted. The revolt forced the White House to seek a compromise with Democratic moderates.

ING RED. Boren is trying a dangerous game. He says he wants to bring Clinton back from the Democrats' tax-and-spend excess and transform him into the New Democrat he claims to be. But Boren risks causing the collapse of the Administration's economic plan. "Boren thinks he's helping the President by doing this," says Steven E. Schier, a political scientist at Carleton College. "But it makes Clinton look weak and not in control of things."

The Administration is apoplectic at what some insiders consider political backstabbing. Speaking to reporters May 20, Clinton, in language usually reserved for Republicans and the rich, crit-

icized Boren's proposal for shifting \$40 billion of the deficit-reduction pain "from wealthy Americans right onto the people just above the poverty line."

The White House must do more than just attack Boren, though. The Oklahoman is the swing vote on the Senate Finance Committee, which has an 11-9 Democratic majority and will begin considering the Clinton package in early June. If Republicans remain united, as expected, Boren could kill the package

popular in his own party," says Senator Bob Kerrey (D-Neb.). With little in the way of higher political aspirations, Boren is undeterred by criticism. "He has come to a conclusion...that these are serious principled issues he's fighting for," says Representative Dave McCurdy (D-Okla.).

Boren's independent streak may be a result of his political bloodlines. His father, Representative Lyle H. Boren (D-Okla.), was a frequent New Deal critic during the Roosevelt Administration. The son ousted a sitting Democratic governor in 1974 by campaigning as a young reformer. A broom became his symbol, and he cleaned up the Oklahoma statehouse by pushing conflict-of-interest rules and campaign-disclosure laws.

GO-BETWEEN. Swept into the Senate four years later, Boren avidly defended his state's energy and agriculture interests.

Unlike most Democrats, he embraced Reaganomics and was a strong backer of the Nicaraguan *contras*. An intelligent negotiator—like Clinton, Boren is a Rhodes Scholar—he served as a bridge between the GOP White House and Senate Democrats. And he cultivated ties to business by emphasizing tax incentives, export promotion, and government streamlining.

It was only natural that Boren was entranced by Clinton's centrist approach to deficit reduction. But a month after pledging "unconditional" support, Boren complained about "constant backtracking" from the budget blueprint. Indeed, he proposed delaying some of Clinton's stimulus plan until Congress met deficit-reduction

targets—although he later backed down.

With one recent survey showing only 22% of those polled favor Boren's plan, Administration officials predict Boren will retreat again. "I don't think he'd like to be seen as the central reason for a failed Democratic Presidency or to have his name attached to the next recession," says one Clintonite.

Boren may cave in eventually. But given Clinton's penchant for compromise, Boren probably will come away with something. For the moment, he has Clinton wriggling in discomfort. To David Boren, that's what friends are for.

By Richard S. Dunham in Washington

DAVID LYLE BOREN



BORN Apr. 21, 1941, Washington, D.C., during father Lyle's 10-year stint in the House

HOME Seminole, Okla.

ENTERED SENATE 1979

PREVIOUS OFFICES State representative, 1967-75; Oklahoma governor, 1975-79

EDUCATION Yale University, Oxford University (Rhodes scholar), University of Oklahoma

FAMILY Wife, Mally; two children

LEGISLATIVE RECORD

▶ Sponsored campaign-finance legislation to restrict political-action-committee contributions and create a system of taxpayer funding for candidates

▶ As chairman of the Senate Select Committee on Intelligence, fought for confirmation of

Robert Gates to head the Central Intelligence Agency over the objections of most Senate Democrats

▶ A pro-business conservative, often voted with Presidents Reagan and Bush, supporting the 1981 economic plan and the 1985 deficit-reduction proposal

▶ Strong advocate for two home-state industries—energy and farming—even delayed confirmation of Attorney General-designate Edwin Meese III in 1985 until the Reagan Administration and Senate leaders agreed to move forward on badly needed farm credit aid

DATA: BUSINESS WEEK

with a single negative vote. And he appears willing to do just that—if the White House doesn't cut a deal that moves Clinton toward the center and protects Oklahoma's energy interests. Boren's proposal may help kill the energy tax and spur a new round of spending cuts. "It's had a dramatic effect," says Senate Minority Whip Alan K. Simpson (R-Wyo.). "The BTU tax is going to be retooled seriously."

Senate colleagues aren't surprised that Boren, who wasn't available for comment by press time, is bucking his own President. "Boren is somebody who's willing to do things that are un-

"I anticipated bureaucracy and slowness. But I really did think it would be more like business than it is."



AN 'AIR-BREATHING ANIMAL' CLIMBS OUT OF THE FISH BOWL

Why John Rollwagen quit Commerce almost before he started

Yes, government is messy and inefficient. But anyone who thinks a reform-minded business executive can jet into Washington and make the bureaucracy stand up and salute ought to talk to John A. Rollwagen.

The former chief executive officer of Cray Research Inc. withdrew on May 19 as President Clinton's nominee for Deputy Secretary of Commerce after becoming enmeshed in a Securities & Exchange Commission probe into insider trading. Rollwagen and his many friends insist he did nothing wrong, and the SEC isn't talking. However it ends up, though, Rollwagen's short-lived Washington experience has plenty of lessons for business.

GOOD START. Top business leaders rarely are asked to take operating jobs in government agencies—and those who get the nod rarely sign on. So when Rollwagen was tapped by Clinton for the Commerce position last December, his acceptance was seen as a sign of constructive ties between business and the incoming Clinton administration. Rollwagen, 52, was excited. He quit his job, packed his bags, and moved his wife and two kids from St. Paul, Minn., to Washington.

Rollwagen's appointed task was important: coordinating technology policy across federal agencies. His challenge:

to match his technological expertise and business acumen with the political savvy of Commerce Secretary Ronald H. Brown, the consummate Washingtonian (page 43). Together, they would help President Clinton laser in on the economy, while addressing the special needs of high-tech industries.

What happened after that is open to interpretation. But the lesson Rollwagen takes from his experience is blunt: He now believes that an executive who has spent his career making decisions and seeing results probably isn't cut out to handle Washington's byzantine political relationships and bureaucratic infighting. "I'm an air-breathing animal that got in the deep end of the pool, and I couldn't create gills fast enough," he says. "I anticipated bureaucracy and slowness. But I really did think it would be more like business than it is."

His awakening was rude. If his first Washington weekend—a Presidential retreat at Camp David—was a high, his first Monday on the job was a letdown. He was shown to his temporary quarters, a work area that could be entered only by walking through someone else's office. Brown, meanwhile, spent the day in meetings at the White House. "I showed up, and they didn't know what to do with me," Rollwagen says.

He quickly developed his own agenda:

engineer a closer relationship between government and business; redefine the terms of U.S. trade policies, especially with Japan; and help set the ground rules for creation of the nation's "information infrastructure." He figured he'd rally various interest groups around a common mission and go for it, as he did at Cray.

It didn't happen. "Commerce has 35,000 people and a \$3.5 billion budget," he says. "Your board of directors is 43 people [Congress], and Commerce deals with about 50 different committees. It's like having a separate committee for the mailroom, one for

the district sales offices, one for the engineering department." Priorities can't be shifted from one function to another—that might offend some subcommittee chairman, Rollwagen says. He realized he would have little control over his agenda, even if he could get it moving.

BRIGHT LIGHTS. Then came the confirmation meat grinder. On May 3, two days before his confirmation hearing, someone leaked the news that Rollwagen was under investigation by the SEC for late 1991 insider trading of stock in the Cray Computer Corp., a Cray Research spin-off. Rollwagen, who a confidant says was shattered by the news, says he had done nothing wrong, but won't go into detail on advice of his lawyers. Colleagues defend him. Edward R. McCracken, chief executive at Silicon Graphics Inc., calls him "one of the most reputable, honest, Midwestern types imaginable."

In the end, with the bright TV lights of congressional hearing rooms looming, Rollwagen decided he'd had enough. So he left. A few days after his withdrawal, he and his family were back in St. Paul. He was out of work, since Cray had already replaced him. He says he still wants to help Clinton as much as he can—but only from the outside. "It's been a huge civics lesson," he says.

An idealistic Mr. Smith done in by Washington's dark maneuvering—or an example of the nomination process perverting its function? Or just a business man who got fed up with Washington? Whatever the case, any business person asked to serve in government will remember his story as a cautionary tale.

By Russell Mitchell in San Francisco
with Douglas Harbrecht in Washington

THE MIDGETS, THE MAMMOTH, AND THE MAINFRAMES

Aggressive rivals are edging out IBM mainframe disk technology

Mainframe disk drives. In an age when the computer industry increasingly champions networks of blazingly powerful desktop machines, the words smack of musty obsolescence. Nonetheless, here it is 1993, and the market for mainframe disk storage equipment suddenly seems more frenetic than ever. On May 20, market leader Adstar, a subsidiary of IBM, tripled the storage capacity of its 3390 disk drive and hinted at a broad range of new products to come. The same day, Storage Technology Corp. agreed to shell out \$75 million in stock for Amperif Corp., a potential competitor in an emerging technology called disk arrays. And on May 25, Hitachi Data Systems upped its pressure on IBM with an all-new line of high-performance mainframe disks.

There's no doubt that sales in the overall mainframe market are shrinking—and with them mainframe disk revenues. Worldwide sales of IBM-compatible mainframe disk equipment will drop to just \$5.1 billion this year from a high of \$7 billion in 1990, reckons market researcher International Data Corp. Of course, that's still a healthy piece of change for any company. And gross margins of as much as 30% are nothing to sneer at.

Just ask IBM. Suddenly, it is facing a host of hyperaggressive rivals in a franchise it once had nearly for itself. Indeed, IBM has actually lost 17 points of the 85% market share it held just four years ago. The reasons: inattention to increasingly specialized market segments and loss of technology leadership—exactly the same problems that have bogged down much of the rest of Big Blue. During the same period, meanwhile, competitor Hitachi has more than doubled its share, to 20%. Its gain comes from highly reliable drives sold through a joint venture with Electronic Data Systems Corp. Then there's EMC Corp., virtually unknown in IBM mainframe circles

a few years ago. Today it is a Wall Street favorite, with net income projected to grow 137% this year, to \$68 million.

To fend off such rivals, IBM's new products will have to make up a lot of lost technological ground. Especially in disk arrays: Just as the microprocessor is sweeping most traditional computer designs out of the market, the bulky mainframe disk is now giving way to the same small drives used in desktop computers. By ganging together scores of such drives under the control of a powerful computer, disk arrays promise to

far. The device actually carries a higher list price than the IBM gear it replaces, says CEO Michael C. Ruettgers, but by dishing out data at higher speeds it can help IBM mainframes do some big jobs twice as fast. "We have a two-year lead over IBM today," he says.

The most visible attempt to outgun IBM with array technology is StorageTek's Iceberg project. Fortunately for Big Blue, though, it remains more promise than reality. When formally launching Iceberg early last year, StorageTek said it had orders in hand for 170 units, which helped drive its stock from 38 to 76. But development problems have delayed shipments repeatedly since then, leading angry investors and analysts to wonder if Iceberg may not miss its ambitious technical and financial goals. "Iceberg's window of opportunity is rapidly closing," says Robert S. Schafer, who tracks large computers at Meta Group, a consulting firm.

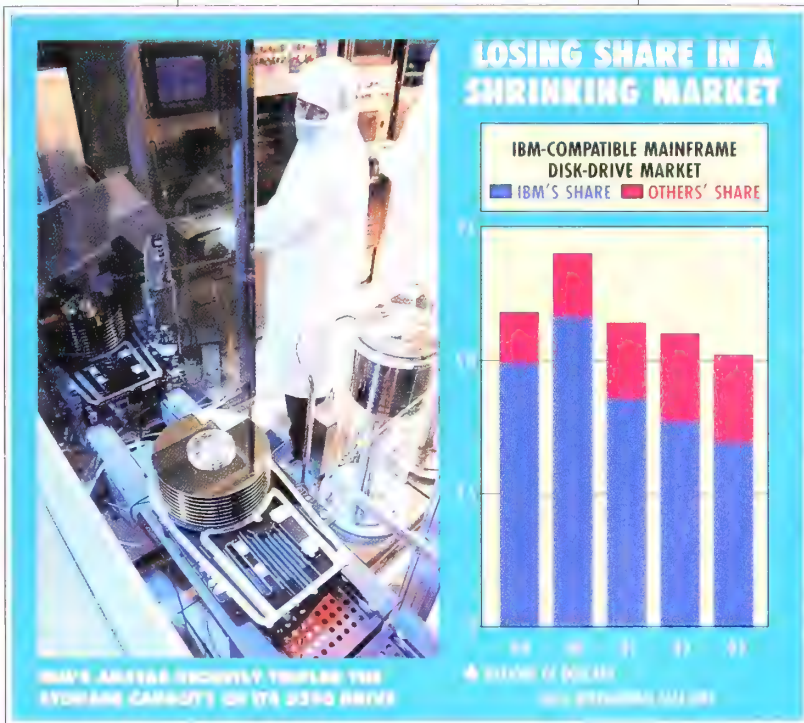
That's one reason StorageTek made its move to acquire Amperif. The Chatsworth (Calif.) company has been working on its own mainframe array called Viking, which Schafer and others believe could outperform Iceberg in certain areas. Buying Amperif eliminates a potent competitor and ensures a worthy replacement should Iceberg ultimately melt down. That's not likely, insists Gregory A. Tynm, StorageTek's chief financial officer. Iceberg is on track for initial field testing late this year, and he says it "does not overlap tremendously" with Viking.

Hitachi Data Systems, the Hitachi-EDS

joint venture, has no array on the market either. But in a recent six-month period, its conventional disk products won more than 200 new customers, says Gary Holtwick, vice-president of marketing for storage. And its new drives use one-third the floor space of IBM's.

So the pressure on IBM continues to mount. "We have some catching up to do," concedes Ed Zschau, the former congressman hired as Adstar's CEO last April. With only a month on the job, that's about all he feels comfortable saying about IBM's competitive position in mainframe disks. Given the competition, Zschau is clearly going to be paying close attention in coming months.

By John W. Verity in New York



outperform conventional drives in almost every test—from price to performance to floor space. Officials at IBM's Adstar say they hope to have a mainframe disk array, designed for high availability of data, ready to ship by March, 1994.

OVERLY AMBITIOUS? In years past, rivals would have waited to see IBM's version of such a radically different product before trying to reverse-engineer their own. But customers have become more willing to try out unique mainframe devices, such as the automatic tape library that StorageTek has turned into a \$1 billion business. Another is the Symmetrix disk array sold by EMC, of which more than 2,000 units have been sold so

HOW I DIDN'T SPEND MY SUMMER VACATION

Fear of an iffy economy is keeping many Americans close to home

This summer, Terry Crump is staying put. She's just returned from a weekend jaunt to Disneyland, three hours down the road, with her family. But the slumping economy and mounting layoffs in California have her nervous about more travel until she sees how well her Crump's Custom Clothing store in Fresno fares. "If it's a good month for the store, maybe we'll go somewhere," she says.

The nation's travel agents can be ex-

100-degree days in Phoenix and Palm Springs—thanks in part to heavy advertising and low room rates.

But on the whole, says Ribero, many people are still sitting out the action, awaiting what he calls "the next neutron bomb from the airline industry."

That would be an old-fashioned price war. Fare cuts made last summer a robust if money-losing exercise for the tourism industry, as recession-weary travelers bought half-price tickets and

than in 1990, despite a \$2 drop in the average room rate. Tourists this summer will be up by a scant 1%, according to the Hawaii Visitor's Bureau. Many of the state's toniest resorts are slashing rates again this summer.

The travel industry is courting customers with bargains. Princess Cruise Inc. has filled nearly all of its six ships traveling round-trip from Vancouver to Alaska—with two-for-one fare offers. A strengthened dollar will prompt more travel to Europe, predicts the American Society of Travel Agents, which polled 200 of its members and found Britain, France, and Italy the hottest spots.

HOMEBOODIES. But many other travelers who might have jetted to Hawaii or the Bahamas are loading up the kids and driving to Aunt Millie's house instead. Bookings at travel agencies run by the American Automobile Assn. are up by



cused for that twinge they just felt in their collective gut. A slowly recovering U.S. economy and two years of pent-up demand had many agents expecting Americans to flood the roads and airports on summer holidays this year.

No dice. Would-be travelers who are still struggling with personal finances, worrying about layoffs, and plain jumpy about the economy have innkeepers and others in the travel biz downsizing expectations. "The sharp upturn that we were expecting just isn't happening," says Brian Robb, vice-president of marketing for Carlson Travel Network, the nation's second-largest travel agent.

STILL SIMMERING. Sure, there are some hot spots. Americans are still flocking to the beaches and theme parks of Florida, says Hilton Hotels Senior Vice-President Michael A. Ribero. U.S. bookings at his 250-hotel chain are up 20% for the early summer. And more travelers want to feed the slots in Vegas and weather the

then watched hoteliers and car-rental agencies rush to slash rates. This year, the airlines are playing it safer. Discounts, slimmer than last year, are set to expire on June 30. They have been enough to boost Delta Air Lines Inc. bookings by 18% for the Memorial Day weekend and to give American Airlines Inc. a 22% increase in the packages to Hawaii and Florida it booked through the first four months of this year.

But bookings for later in the year are downright skimpy. "People call up, listen for the fare, then say they'll check back later," says Richard Marks, president of MDC Travel in Washington, D.C. That tentativeness will help hold growth in hotel bookings to a mere 3% this summer, predicts industry consultants PKF Consulting, and will keep Hawaii in the doldrums. Crushed between California's economic woes and Asia's recession, hotel occupancies in the Pineapple State are running at 73%. That's 9% lower

5%, with expected car travel increasing by 8% from 1992. Indeed, drivers crowded Yosemite National Park in early May, forcing rangers to turn away tourists.

Some travelers are just as likely to avoid the hassle—and the cost—and stay home altogether. Bill and Wendy Selnick refinanced their home near Salt Lake City, but used the proceeds to pay down bills rather than pay for a trip they had wanted to take to the Northwest.

A number of travel experts say airlines will resist further price cuts (page 116). Others don't buy it. "We're going to see another price war," predicts Barney F. Kogen, chief executive of Houston-based UltraAir, who predicts cash-poor carriers like Northwest and America West will trigger a 30% to 40% cut in fares. Those are numbers that make it hard to stay content barbecuing in the backyard.

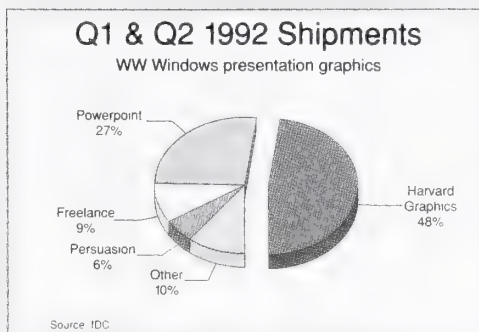
By Ronald Grover in Los Angeles, with bureau reports

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Commentary/by Joan O'C. Hamilton

WHO'S AFRAID OF JURASSIC PARK? BIOTECH OUGHT TO BE

As nearly everyone in America must know by now, on June 11 Steven Spielberg will bring to life *Jurassic Park*, the Michael Crichton thriller about money-mad gene-splicers who use ancient DNA to clone live dinosaurs—which then run amok on a Central American island.

Even before its release, this well-hyped movie has anti-biotech activists in a tizzy. Volunteers from the Pure Food Campaign, led by Washington biotech foe Jeremy Rifkin, plan to picket theaters in 100 U.S. cities. Their flyers feature a dinosaur pushing a grocery basket labeled "Bio-tech Frankenfoods." Their message: "Corporate science" can alter and create life forms with "enormous and frightening" possibilities.

Given the high visibility the movie and Rifkin-inflamed fears are bound to get, you'd think the industry would be working on a staunch defense. No such luck. The public is too intelligent to mix up what's going on in corporate laboratories with the film's Toyota-chomping *Tyrannosaurus rexes*, one biotech PR executive opined at a recent conference. Another said he didn't care what the public says about biotech—as long as it talks about it.

This complacency has a few of biotech's savvier spinmeisters shaking their heads. *Jurassic Park*'s dark message—that powerful science leads to disaster—will be "the most massive exposure to genetic engineering this country has ever had," warns New York public-relations consultant Lisa Burns. Burns worries that controversy will ensnare her firm's three dozen biotech clients, none of whom, she admits, seems to have given it a second thought. "It's *Star Wars* technology [with] the immediacy of *Jaws*," Burns says. "People will worry."

If biotech blows it with *Jurassic*

Park, it won't be its first PR flub. Again and again, the nearly two-decade-old business has responded to controversy with: "Trust us, we're scientists." Rather than prepare for criticism, justified or not, the industry insists that only the ignorant have qualms about DNA research.

Biotech may be in for a rude awakening. Several aspects of *Jurassic Park* have a basis in fact, chief among them that extracting DNA from insects trapped in amber millions of years ago is indeed happening in labs right now.



If biotech blows it, it won't be the first time. Again and again, its response to controversy has been: "Trust us, we're scientists."

It's a long way from there to cloning live dinosaurs, of course, but an intelligent observer is certainly justified in asking whether there's anything to fear or whether anybody is keeping an eye on this stuff.

Nonetheless, the key industry trade group, the Industrial Biotechnology Assn., has no response planned and "no real concern," says a spokesman. That complacency could be costly. Last year, the Food & Drug Administration eased regulatory demands on agricultural biotechnology products. Since then, the FDA has logged many complaints about the rule changes. Now, regulators may be on the verge of requiring gene-spliced foods to carry spe-

cial labels—which could be expensive, complicated to implement, and scary for consumers.

Meanwhile, the public's qualms have already stymied at least one genetically engineered product. BGH, a gene-spliced hormone to increase milk production, has been stalled at the FDA for years. The FDA says the stuff is safe, but consumer and dairy-industry opposition remains fierce. Now, Calgene Inc. is poised to roll out the Flavr Savr tomato, which would be the nation's first genetically altered food. But Cal-

gene's research partner, Campbell Soup Co., has been wary of endorsing the product until the public weighs in.

What's that got to do with rampaging *rexes*? Plenty. Not because the public need fear bio-dinos, but because *Jurassic Park* will again remind people that "safety" is relative. Consumers figure physicians, companies, and government regulators are responsibly developing gene-spliced drugs, gene therapy, and other medical wonders. But its trust doesn't necessarily hold when talk turns to putting new organisms or foods into the environment. In such

cases, the *Jurassic Park* theme of epic tragedy from Big Science gone awry may loom large.

Rather than bury its head in the sand, the industry should use *Jurassic Park* as an opportunity to start talking about biotech's positive contributions. That could increase the odds that in a few years, consumers will rent *Jurassic Park* videos, munch gene-spliced popcorn, and marvel at how fast progress was made. Instead, biotech's hubris risks having those same couch potatoes breathe a sigh of relief that society nipped all this in the bud.

Joan O'C. Hamilton covers biotechnology from San Francisco for this magazine.



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THE DEAN IS OUT —AND HE ISN'T COMING BACK

There's a lot of turnover at the top in the nation's B-schools

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The job description for a chief executive officer? Try the dean of a business school in the 1990s. Faced with mounting pressures from corporate benefactors, tenured faculty, and ever-demanding students, B-school deans are turning over in record numbers—often in the midst of controversy. All told, some 84 of the nation's 700-plus business schools, including Massachusetts Institute of Technology and Washington University, are searching for deans, says the American Assembly of Collegiate Schools of Business (AACSB).

NO MORE MR. CHIPS. The University of Colorado at Boulder has just lost its fifth dean in eight years (page 38). Eight months after becoming dean at the University of Rochester, William E. Mayer abruptly resigned his position over a funding dispute in May, 1992. The dean of Yale's School of Organization & Management, who attracted criticism for his efforts to remake the school, departed last year after four years in the job—not far behind the university president, who had supported him throughout the brouhaha.

The lesson: A business-school deanship is hardly the sinecure it once was. "The image is of a Mr. Chips as dean, spending all of his or her time with students and faculty in an idyllic academic environment," says John W. Rosenblum, who is stepping down as dean of the University of Virginia's Darden School of Business. "You have to be a general manager, a politician, a fundraiser, and a division manager negotiating with a corporate office."

It seems as if B-school deans are bailing out right and left—or being thrown out. In the past five years, their average tenure has fallen a full year, to just four years, says the AACSB. Schools now regularly employ executive-search consultants, at fees of up to \$50,000, to scare

up possible candidates. Heidrick & Struggles Inc., which just placed a new dean at Indiana University, has done seven searches for B-school deans in the past 12 months, up from only two a year in 1988. And the searches rarely are quick and tidy affairs. Georgia Institute of Technology's School of Management had been without a permanent dean for four years before finally landing Arthur

Dean J. Clayburn LaForce is retiring after 15 years. "I've often said it's like running a dairy," jokes LaForce. "The cows are there in the morning and at night, and you've got to be there several days a week. It's the intensity that doesn't even let up during the summer that tires people out."

SCATHING REPORT. Many find the politics just as tiring. Being the dean of a business school can become the prototypical burnout job, a trying experience that can frustrate the most seasoned professional. Mayer, a former chief executive of First Boston Corp., lasted eight months at Rochester. "Often, you do not have a complete symmetry between accountability and authority," he says. "At the end of the day you can fire somebody in a corporation, but here you can't fire



WASHINGTON'S VIRGIL



VIRGINIA'S ROSENBLUM



MIT'S THUROW

FIVE B-SCHOOLS IN SEARCH OF A DEAN

School	Departing dean	Length of tenure	Length of search so far
MIT	LESTER THUROW	6 years	3 months
UNIVERSITY OF ROCHESTER	WILLIAM E. MAYER	8 months	2 months
USC	JACK R. BORSTING	5 years	3 months
UNIVERSITY OF VIRGINIA	JOHN W. ROSENBLUM	11 years	6 months
WASHINGTON UNIVERSITY	ROBERT L. VIRGIL	17 years	9 months

DATA: BUSINESS WEEK

Kraft, previously a dean at Rutgers, this month.

What's behind the exodus? In many cases, deans are simply resigning after having served for many years. Richard R. West decided to return to the classroom after a 16-year stint as top dog, first at Dartmouth's Amos Tuck School and then at New York University's Stern School of Business. Lester Thurow, dean of MIT's Sloan School, called it quits after six years. At the University of California at Los Angeles,

faculty member." Mayer must be a glut for punishment: He became dean of the University of Maryland's B-school five months after leaving Rochester.

Rosenblum, who exits Virginia's B-school this month after 11 years as dean, can speak from experience about some of the frustrations. He led the school's rise to prominence, getting high marks as a spirited leader known for his candor and accessibility. But in his final year as dean, he came under attack from several quarters. In April of last year, an out-

Ivory-tower politics is daunting, says Mayer. "At the end of the day you can fire somebody in a corporation, but here you can't fire a faculty member"

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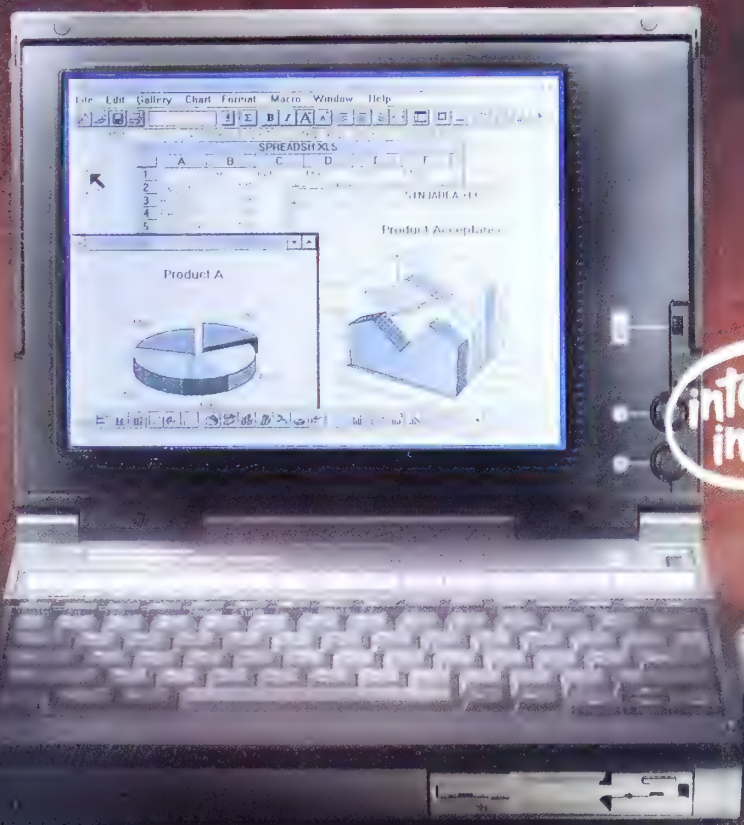
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side committee concluded the school was a "hostile climate for women."

Then, Rosenblum took heat from students when he canned a popular professor. Last October, an anonymous group of black students issued a scathing report alleging racism at Darden. Rosenblum denies the charges. "It was much harder to be dean at the end of my career than at the beginning," he says.

"Not only are we facing more economic pressures but also more public scrutiny and awareness."

The bottom line: Heading a B-school these days may be as tough as or tougher than running a company in the age of restructuring and heavy layoffs. "It's a change-making job: If you don't make change you're going to lose your job," says B. Joseph White, a former Cum-

mins Engine Co. executive who now is dean of the University of Michigan business school. But, adds White, "you can't make change without breaking change, and that probably puts a cap on the length of time you can be effective. And given all the forces at work on B-schools these days, the cap is coming down every year."

By Lori Bongiorno in New York

A B-SCHOOL THAT'S A CASE STUDY IN BAD MANAGEMENT

After chewing up four deans in eight years, the University of Colorado College of Business & Administration in Boulder thought it had a winner last July, when it tapped Ralph Z. Sorenson. Formerly president of Babson College in Wellesley, Mass., and chief executive of a Massachusetts manufacturing company, "Bud" Sorenson won out over 100 other candidates. He was expected to "lead us to greatness," says Robert H. Deming, chairman of Columbia (Mo.) appliance maker Toastmaster Inc., who was on the search team. The dean's staff was so enthused that they greeted their new boss wearing T-shirts saying "This Bud's For You."

As it turned out, this Bud wasn't for C.U. On May 4, Sorenson quit, citing as motive "noncollegial practices"—academese for sabotage and backstabbing. Alarmed, the university on May 24 took what may be an unprecedented step in business-school history: It declared what some faculty are calling "martial law" at the school—suspending normal operating rules, disbanding existing faculty committees, and installing a code of conduct that will include sanctions against unprofessional behavior. The message: Even tenured professors who cause trouble now may be fired.

Are things that desperate in Boulder? In a word, yes. By just about all accounts, the historical problems at C.U. read like a B-school case study in bad management: lack of focus, bureaucracy, resistance to change, and underfunding. "We stink," says one faculty member. "C.U. is on nobody's list of the top 20 business schools. Hell, it's not even in the top 40."

The way he tells it, Sorenson

launched a turnaround plan aimed at improving the school. He wanted to focus on entrepreneurship, rather than on training students for jobs in large corporations. He also put students and the business community ahead of faculty. Says Sorenson: "I felt teaching was more important than research."

Sorenson says his plans riled dissident faculty members. Emphasis on such skills as leadership, teamwork, writing, and speaking, says Sorenson,

informal meals, his first guests were students, not faculty.

Sorenson's faculty critics, however, say the real problem was his lack of leadership. "Bud was a very bad manager," insists Assistant Finance Professor Richard H. Jefferis Jr. He says Sorenson's strategic plan avoided making hard decisions about cutting the school's costs and, instead, was mostly rhetoric. "It says things like we should have better relationships with the business community. Well, every faculty member agrees with that," says Jefferis. In addition, he charges, Sorenson had a "bottomless in-basket" and failed to do some key academic chores.

Whatever the truth, Sorenson clearly walked into a political buzz saw. Anonymous notes began to appear in faculty mail boxes, attacking his record and the increased involvement of business people at the school. In addition, says John M. Hess, professor of marketing and international business, about six "incendiaries," out of a faculty of 66, consistently tried to subvert reforms at the school. Says Hess: "The

vocal few took over because the rest of us said, 'I want to get some work done. I don't want to fight you.'"

Sorenson says he hopes his decision to step down "will provide shock therapy" that will get the school back on track. It's not going to happen soon. The university says it will name an interim dean by June, probably an insider but not a member of the business school. It won't launch a search for a permanent dean until the school is straightened out. Then again, anyone who can fix up this mess would probably make a pretty good dean.

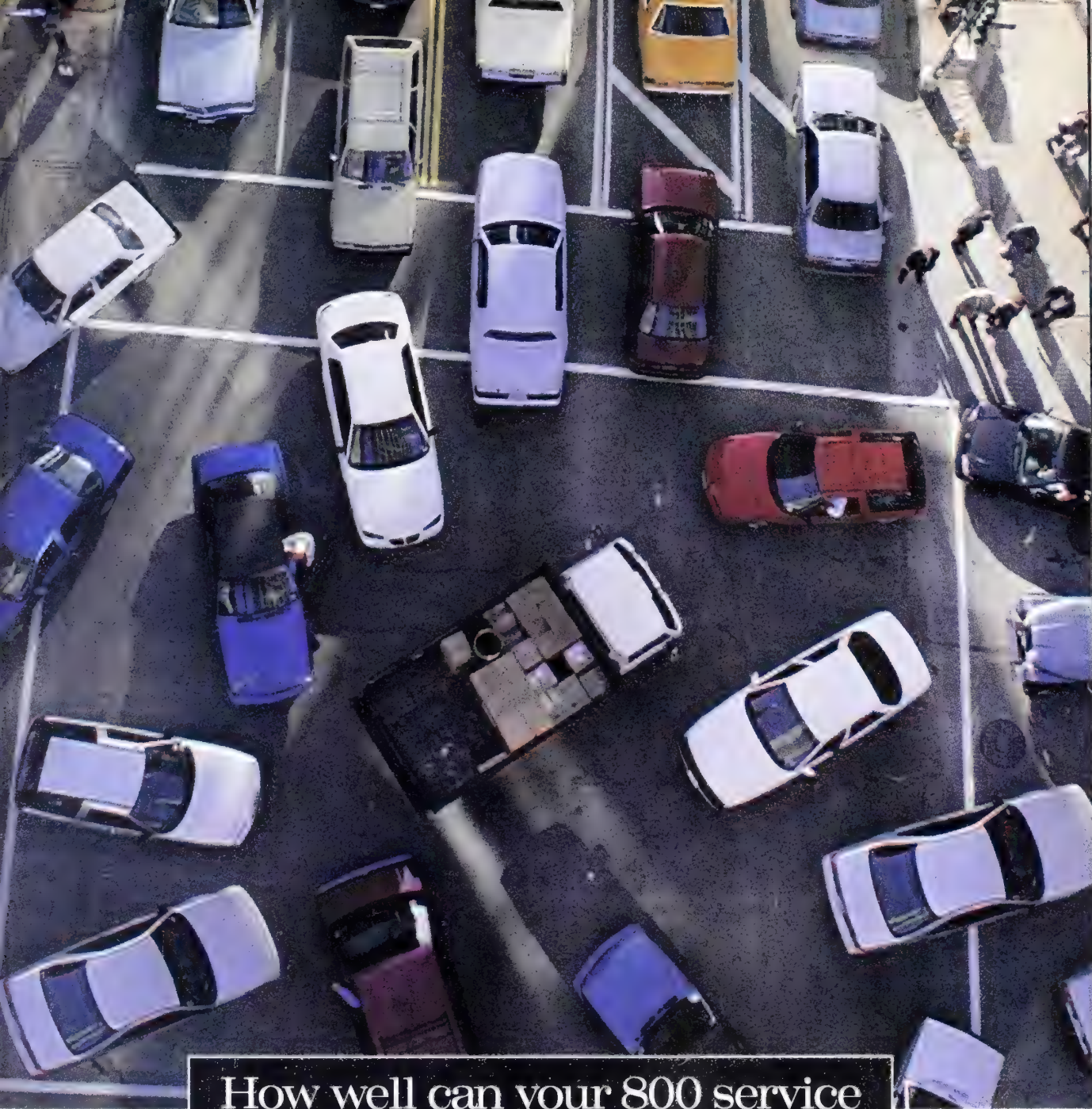
By Sandra D. Atchison in Denver



Trouble in paradise: Sorenson's initiatives threatened Boulder's "functional fiefdoms"

"broke down functional fiefdoms" within the school. "That's a scary thing. There was a resistance on the part of some faculty to change." In the end, says Sorenson, he decided that "life was too short to live in such a charged atmosphere."

BUZZ-SAW MASSACRE. Faculty also may have been miffed by his emphasis on student concerns. After Sorenson held a "Breakfast with Bud" meeting with students, one professor complained to a student: "He knows your name but not mine." Another griped that when Sorenson opened the once sacrosanct dean's conference room to



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In Business This Week

EDITED BY JULIE TILSNER

UNDER THE GUN

An independent commission in late May recommended closure of 37 military installations across the U.S.—stepping up the pressure on defense-dependent states to develop workable conversion schemes.

1992'S DEFENSE-RELATED PRODUCT AS A PERCENT OF TOTAL STATE PRODUCT

ALASKA	7.6%
HAWAII	7.0
VIRGINIA	6.8
CALIFORNIA	6.1
WASHINGTON	5.1
MISSISSIPPI	4.8
MARYLAND	4.7
CONNECTICUT	4.3
NEW MEXICO	4.1
SOUTH CAROLINA	3.9

DATA: DEFENSE BUDGET PROJECT

REMEMBER THOSE BIG FEDERAL SAVINGS?

► It seemed like a good idea at the time. But a move to more short-term borrowing by the Treasury Dept. won't save the \$16.4 billion originally expected through 1998, the Clinton Administration now says. The White House budget office said on May 25 that eliminating the sale of seven-year notes, cutting 30-year bond offerings in half, and increasing borrowings of two- and three-year notes would save just \$10.8 billion. The Congressional Budget Office puts the savings at a mere \$6.4 billion. There will be no savings at all if short rates take off, as some private economists expect.

SOME RULE-BENDING AT THE WHITE HOUSE

► Do as I say and not as I do? Clinton Administration officials said they were shocked to learn on May 17 that the White House travel

office had regularly used a charter airline without first seeking competitive bids. They were also upset when KPMG Peat Marwick reported that the air-charter operator had not signed a government contract. But White House officials should check out their own relationship with Peat Marwick. The legal counsel's office asked the accounting firm to conduct the review without seeking competitive bids. Nor did Peat ever sign a contract. Federal regulations require that all executive agencies seek competitive bids from outside suppliers, and that they sign contracts requiring private companies to follow various rules. The bill for this episode of rule-bending? Based on common accounting charges, at least \$45,000.

UEBERROTH: TAKE ME OUT, COACH

► Former Baseball Commissioner Peter Ueberroth knows when to quit. With the Rebuild L.A. effort in turmoil, the Los Angeles businessman on May 21 stepped down as the organization's co-chairman. Rebuild L.A. has received \$500 million in commitments from corporations willing to invest in South Central Los Angeles. But it is still well short of its goal of revitalizing the inner city and has been plagued by political sniping from L.A.'s

HOW ABOUT A POPESICLE?

Attention, Catholic shoppers: The 500,000 faithful expected at the World Youth Day conference in Denver, Aug. 11 to 15, where Pope John Paul II will say Mass, will be able to take home a host of Popeabilia. On sale: everything from Pope Scopes for viewing His Holiness to T-shirts bearing a picture of the Pope in a thumbs-up gesture and the words "Most Excellent."

"We wanted to show the Church has a sense of humor," says John C. Lemke of Famous Artists Merchandising Exchange, which won the job of approving 220 souvenirs on behalf of World Youth Day, co-sponsored by the Pontifical Council for the Laity and the U.S. Catholic Conference of Bishops. Some items tested the Church's sense of decorum and lost, like a "Pope on a Slope" sculpture of His Holiness skiing down a mountain. Says a conference spokeswoman: "There is a fine but delicate balance between appropriate and tacky."



black leaders. Ueberroth's departure tarnishes his golden-boy image, first created when he organized the hugely successful 1984 Olympics.

SEAGRAM TAKES A MULTIMEDIA GULP

► Edgar M. Bronfman has seen the future, and it is multimedia. That's the subtext of his May 26 disclosure that Seagram has bought 21.1 million shares of Time Warner stock. Bronfman, CEO of the Montreal-based liquor giant, said in a 13D filing with the Securities & Exchange Commission that Seagram bought its 5.7% stake "solely for pur-

poses of investment." Seagram also filed with the Federal Trade Commission under the Hart-Scott-Rodino Antitrust Improvements Act for permission to boost its stake to 15%.

Bronfman's disclosure comes a week after Time Warner clinched a \$2.5 billion strategic alliance with regional telephone company U.S. West. By linking up with U.S. West, Time Warner is accelerating a plan to offer sophisticated multimedia services over its cable system. Seagram began buying shares on Feb. 2, when rumors of the deal began to move. Time Warner "is the best positioned company to benefit from future growth" in the media business, Bronfman said in a statement.

Seagram owns 24.3% of chemical giant DuPont. But it has no other major media investments. A Seagram spokesman says the company only informed Time Warner of its purchase on May 26. But Bronfman insists that he intends to support Time Warner's management. For its part, Time Warner says "we're happy to have them as shareholders." The company's stock, which has risen sharply, closed at 38 on May 26, up 1¹¹/₃₂.



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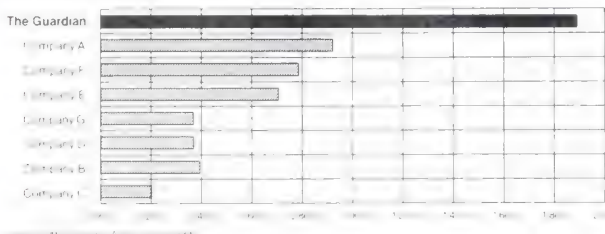
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Strong, Vital, Focused and Committed: 1992 Was Another Outstanding Year for The Guardian.

1992 Return on Assets

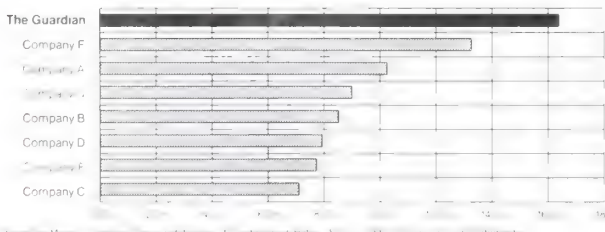


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NOTE: Companies A through G are actual life insurance companies included for comparison purposes on the basis that they are highly rated by the top independent industry rating agencies, and are considered to be similar to The Guardian in markets and organization. The comparison includes the parent of all companies remaining with the highest Aaa rating from Moody's.

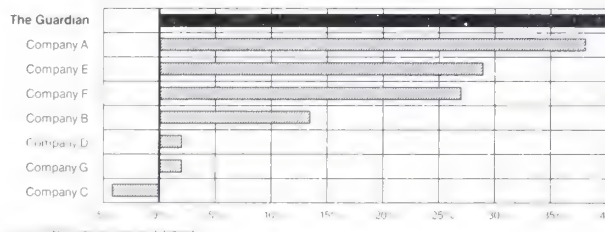
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A BAD CASE OF CLINTONITIS AT COMMERCE

Political savvy and a fat Rolodex can get you a long way in Washington. But sometimes, it's just not enough. Ask Commerce Secretary Ronald H. Brown.

The successful lawyer-lobbyist and Democratic Party chairman took the job in January with high promise. He wasn't going to be just another pol handed the Commerce job as a reward. President Clinton told him to make the sleepy department the lead agency in coordinating trade and industrial policy and to launch a splashy export-promotion push.

Brown got off to a strong start, allying himself with Administration trade hawks, including U.S. Trade Representative Mickey Kantor and Council of Economic Advisers Chairman Laura D'Andrea Tyson. It looked as if Commerce might at last take its rightful place at the head of the trade table.

But Brown seems to have been struck with a case of Clintonitis. The symptoms: frenetic activity, but an inability to concentrate on the main task. "His initial focus was perfect," says a longtime friend, "then seemed to get away from him."

FULL AGENDA. Brown has been a whirlwind. He has surprised chief executives, such as TRW's Joseph T. Gorman, with pop-in visits and has barnstormed the country in support of Clinton's economic program while promoting "bottom-up government" and a "new partnership" with business. He is trying to fulfill a White House mandate to act as civilian technology czar, launching an unprecedented government-industry partnership to design a new generation of pollution-free supercars. And Brown has been an effective lobbyist for Commerce, winning approval from the Office of Management & Budget for an additional \$1 billion for the National Institute of Standards & Technology, which promotes private-sector development of new technology. In his spare time, Brown has been looking for ways for Washington to help revive the shell-shocked economy of California.

But none of this is helping Brown build Commerce's trade franchise. His ambition to boost the department's role suffered a serious blow on May 19 when his choice for the No. 2 job, former Cray Research Inc. Chairman John A. Rollwagen, abruptly withdrew his name. Rollwagen's nomination had been under the cloud of a Securities & Exchange Commission insider-trading investigation (page 30).

The failed appointment leaves a gaping hole at Commerce. Rollwagen, an experienced exporter and tough critic of Japanese market restrictions, was to take charge of Commerce's trade effort. "This is a disaster," says an executive being considered for an Administration post.

BEST BRAINS. Brown would like to find a first-tier CEO to replace Rollwagen, but is having trouble hiring one. In the meantime, Brown has stepped up pressure on the White House to nominate investment banker Jeffrey Garten of Blackstone Group as Under Secretary for International Trade. He is courting Tokyo-based American Telephone & Telegraph Co. executive Glen Fukushima for a top trade post. And AlliedSignal Inc. executive Mary L. Good was just nominated as Under Secretary for Technology.

Brown, a very successful party chairman, gets credit for having one of the best political brains in Washington. "He has the capacity to be an extraordinary influence over policy," says Bush Administration Commerce official Wayne L. Berman. "He understands the need to be flexible."

Aides say Brown is revising his agenda. "What you will see in the next couple of months is a guy focused on trade promotion with the overarching vision being expansion of jobs," says Commerce Chief of Staff Robert J. Stein. But unless he acts quickly, Ron Brown may never become a candidate for a Malcolm Baldrige National Quality Award.

By Douglas Harbrecht and John Carey



BROWN HAS LOST HIS FOCUS ON TRADE

CAPITAL WRAPUP

HIGH TECH

Labor Secretary Robert B. Reich's unconventional views on industrial policy are causing unease within the Clinton Administration. In a note to U.S. Trade Representative Mickey Kantor, Reich argues that it's no problem if most computer manufacturing moves abroad. "Computers... are no longer high-wage exports," he writes. "Most computer hardware is now a commodity." He advocates letting developing countries take over low-value-added manufacturing—though Clinton opposed such transfers during the campaign. Reich also brands as useless the U.S.-Japan semiconductor pact, which

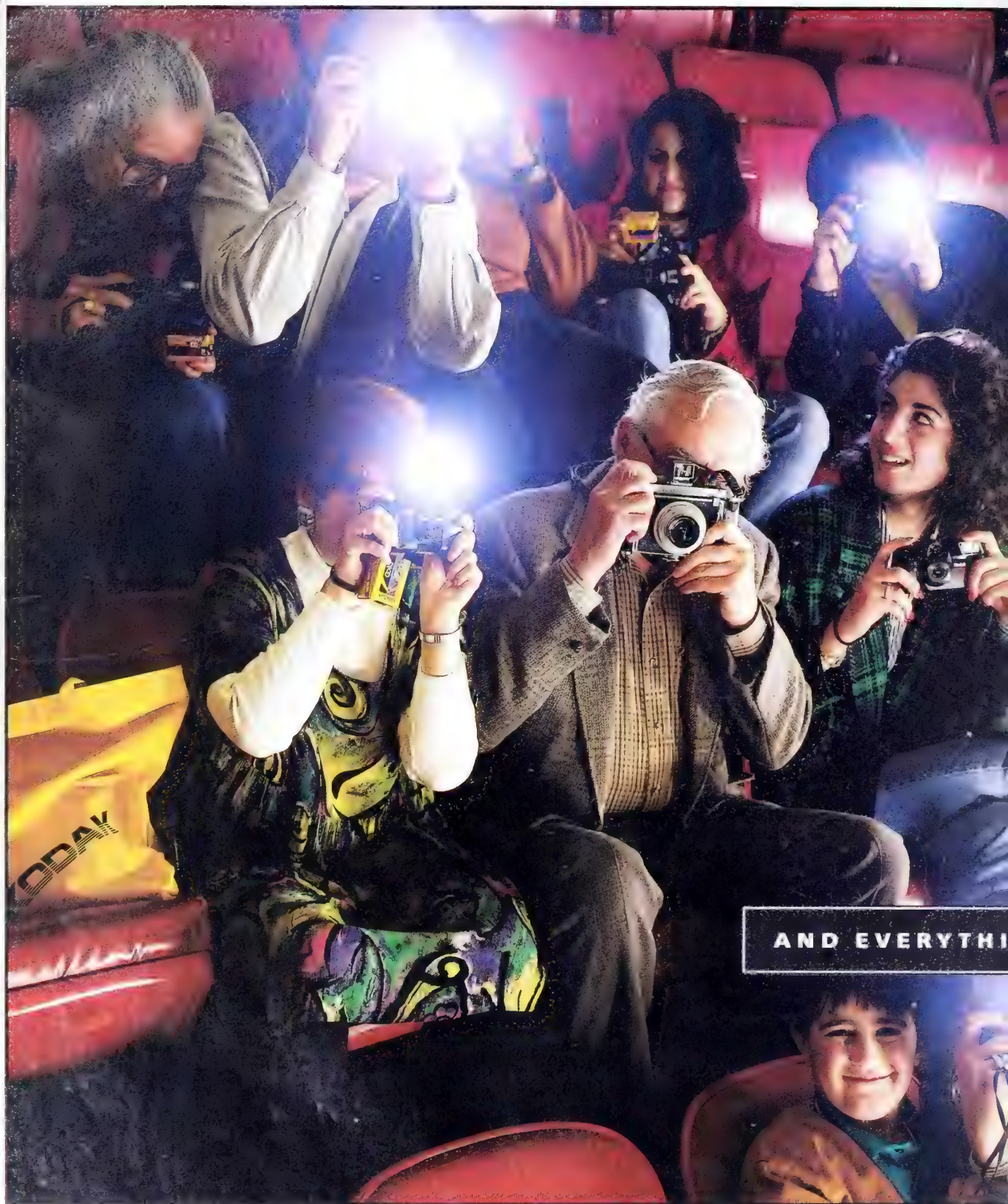
requires the Japanese to buy 20% of their chips from foreign sources. He says 75% of the chips counted as U.S.-made are actually fabricated in Japan. But the Semiconductor Industry Assn. says the correct figure is closer to 25%.

RETRAINING

Is former Vice-President Dan Quayle getting ready for a new career in the foreign exchange pits? Between rounds of golf, he's being tutored by his former national security adviser, Karl Jackson, now a foreign exchange analyst, on the ins and outs of the \$1 trillion-a-day currency markets. Quayle, though, says he's merely boning up on a vital issue in international economics.

IRAQGATE

House Banking Committee Chairman Henry B. Gonzalez (D-Tex.), who was constantly frustrated by Bush Administration stonewalling of his probe of U.S. support for Iraq before the gulf war, isn't getting much more cooperation from the Clinton White House. The committee is still having trouble getting documents on allegedly illegal loans to Iraq by the Atlanta branch of Italy's Banca Nazionale del Lavoro. Staffers trying to wrap up a report on BNL aren't sure whether the Clintonites have discovered executive privilege or whether they just haven't gotten their act together.



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FRANCE



TV-MAKING AT THOMSON: FOR MANY COMPANIES, PRIVATIZATION COULD BE A PAINFUL MOMENT OF TRUTH

FRANCE WANTS OUT OF BUSINESS

Balladur's sell-off of state-owned companies ends the *dirigiste* era

I'm not a rigid man, not at all," French Prime Minister Edouard Balladur stressed during a recent interview on national TV. Not that his fellow *citoyens* need convincing these days. If anything, voters who swept the courtly Balladur's conservative coalition into power two months ago are concluding that he may be desperate enough to try anything to turn around France's deepening economic crisis.

After pushing through an austerity budget that raised consumer taxes and aimed to consolidate his credibility as a hard-money zealot, Balladur on May 25 did an about-face. He unveiled plans to float a \$7 billion bond issue intended to stimulate the economy with public works and

rein in galloping unemployment, now at 10.7%. A day later, he filled out his blueprint with a plan to privatize 21 state-owned companies, including such family jewels as Air France, Renault, Banque Nationale de Paris, Thomson, and money-losing computer maker Groupe Bull.

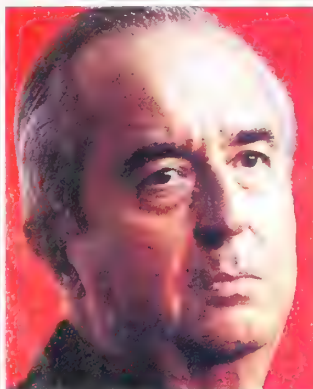
The conservatives say they are only continuing down the list of privatizations

they began when last in power, from 1986 to 1988. Yet Balladur appears headed for a bold break with the postwar chapter of state capitalism, or *dirigisme*, that dates back to the Gaullist era. For one thing, the 20% cap on foreign investment imposed on the 1986 sell-offs has been lifted. That means such proud national symbols as Air France and Renault could conceivably fall under the sway of foreign companies. Clearly, the French state—often referred to as the Shareholder—wants out of the business of business. Says Economics Minister Edmond Alphandéry: "Almost everywhere in the world, vast privatizations have been undertaken. France has stayed on the sidelines for too long."

BIG NAMES. Along with such high-minded principles, the government is being driven by a desperate need for cash. Balladur needs to bring down the budget

deficit, which is approaching 6% of gross domestic product.

Yet making major cuts in costly social security programs would be political suicide. So privatization seems to be Balladur's only alternative. His plan is to raise cash quickly for a jobs program through the \$7 billion bond issue, then pay down the new debt in the next year with \$7 billion in



CASH—NOT JUST IDEOLOGY—IS BEHIND BALLADUR'S BOLD PLAN

WHAT THE AUCTION COULD PULL IN

Company	Industry	Potential proceeds* Billions
RENAULT	Motor vehicles	\$3.37
ELF AQUITAINE	Oil	2.90
AGF	Insurance	2.26
BNP	Banking	1.21
RHONE-POULENC	Chemicals	0.61
THOMSON	Electronics	0.44

* Assumes state share cut to 34%

DATA: LEHMAN BROS. INTERNATIONAL, BUSINESS WEEK ESTIMATES

proceeds from privatization. In all, the French government could raise up to \$90 billion from selling assets, estimates says Butler, an analyst in broker Barings Securities' Paris office.

Balladur is planning to put some of the biggest corporate names in France on the block. He'll likely start this fall with companies such as Elf Aquitaine, BNP, and perhaps insurer AGF (table). Since Balladur's last stint as Finance Minister in 1986, France's big oil, drug, and insurance companies have streamlined operations. AGF and BNP, for instance, are managed pretty much the way their private-sector rivals are.

Yet for some companies, such as electronics maker Thomson and national carrier Air France, privatization could be a moment of painful truth. Air France lost \$607 million last year and recently turned to the state for an infusion of \$272 million. A private Air France would certainly have to cut its bloated workforce by as much as 30%. And a privatized Thomson would find its lackluster TV operations in Europe and the U.S. under intense scrutiny from new shareholders. In contrast, privatization could be liberating for Renault, France's flagship auto maker. Under Chairman Louis Schweitzer, the company has radically restructured itself, produced spiffy new models, and readied itself for tough new competition from the Japanese. It's now solidly profitable.

DULLED APPETITES. Whether investors will be wowed is debatable. They may feel a little leery of what they are being offered. Take the effort to privatize BNP, France's second-largest commercial bank. It will benefit from the experience of Michel Pébereau, who charted the privatization of Crédit Commercial de France during the last conservative reign. Yet even Pébereau, who is taking over as chairman, will struggle with valuing BNP's \$140 billion in loans outstanding, half of them outside France.

You might think the nationalist French would flock to buy shares in their home companies, but recession and higher taxes could dull their appetites. A newspaper poll just published indicates that only 14% of the French intend to buy shares in the privatized companies. That's only a bit higher than the 11% who participated in the 1986-88 sell-off and not very encouraging for a privatization effort of this size. The news of big layoffs spurred by privatization could further dampen public enthusiasm. Balladur is aware of all this, and the pressure to modify his radical program could be intense. But with the rest of the continent adrift, he has a chance to position French industry for a strong rebound when Europe's long-awaited recovery finally arrives.

By Bill Javetski in Paris

GERMANY

CRUNCH TIME FOR GERMANY'S UNIONS

Suddenly, labor must bargain without its savvy, charismatic leader

German workers now earn more pay and benefits for less work than any others in the world. They can thank Franz Steinkühler for that. As the charismatic chairman of Germany's biggest labor union, the 3.3 million-member IG Metall, since 1986, he led the fight for a 35-hour week and higher wages. Battling employers in good times and compromising in bad, he was the epitome of the modern labor leader.

Now, German workers have to find a new champion just when they're in the hot seat. Steinkühler resigned from his union post on May 25 because of share trades tainted by a suspicion of insider dealing.

His abrupt departure comes at a critical juncture for the labor movement in Germany. Unions are still trying to push claims for pay parity between east and west German workers. IG Metall, for instance, recently called 70,000 east German members on strike for 26% pay raises. The unions are also part of an effort to forge a new social compact with management and government to restore lost competitiveness to Germany's \$2 trillion economy. Chancellor Helmut Kohl would like to see the unions trade moderation on wages and work rules for job security.

WEAKER LEFT. It is still to be seen whether Steinkühler's departure will make these negotiations easier. On one hand, his absence—along with the recent resignation of Social Democratic Party leader Björn Engholm—has weakened the left. That helps Kohl push measures the left opposes, such as raising personal taxes to cut budgets while reducing levies on business to stimulate a recovery.

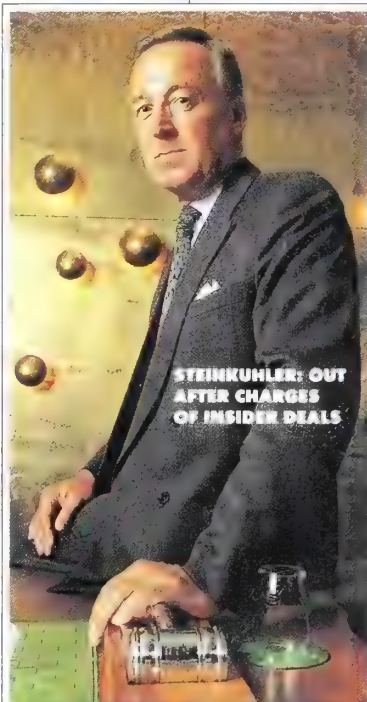
Other big German unions, such as those of chemical and public-sector workers, are already accepting real wage freezes. But IG Metall has been hanging tough. And its probable new leader, Klaus Zwickel, a chief wage bargainer, may feel the need to slow things down in order to prove himself. Says Zwickel: "This is a struggle about Germany's social and political future."

It was in part Steinkühler's ability to talk to management that may have been his undoing. Under Germany's co-determination system, unions hold about 30% of seats of the supervisory boards of big companies. Steinkühler was deputy chairman of Volkswagen and a member of the Daimler Benz and Thyssen boards. It was his trading in shares of Mercedes Automobil Holding and Fokker ahead of price-sensitive moves by Daimler's board that toppled him. Steinkühler turned over his profits on the trades to IG Metall strike funds and denies any wrongdoing.

But even apart from a conflict of interest, it doesn't go down easily with the rank and file when its leaders own shares of companies in the midst of layoffs. Mercedes is cutting its work force by nearly 30,000 over two years. But big companies aren't likely to take

advantage of this moment to beat up unions. With one-quarter of Germany's manufacturing base destined to flee abroad by the end of the century, industry needs labor leaders of Steinkühler's former stature to broker changes. Only unions can sell painful restructuring as the price of continued high wages and a broad social safety net.

By John Templeman in Bonn



STEINKÜHLER: OUT AFTER CHARGES OF INSIDER DEALS

WHAT'S NEXT FOR GERMAN LABOR?

- ▶ Workers will trade wage moderation for job security
- ▶ Union cooperation with the government on new social compact
- ▶ Rules for union directors on boards will tighten

SOUTH KOREA

HYUNDAI'S GUTSY GAMBIT

It really is dismantling its \$52 billion empire. Other *chaebol* may, too

Few Koreans believed Hyundai group founder Chung Ju-Yung when he announced last December that he would dismantle the Hyundai Group, the country's largest *chaebol*, or conglomerate. Chung had just finished a dismal third in the country's presidential election, but as head of Hyundai he remained one of the most powerful men in South Korea. And in the past, similar promises to reform the mighty Korean *chaebol* had resulted in few changes.

"Big Chung" proved the skeptics wrong on May 22, when he detailed his plan to break up the \$52 billion Hyundai empire. Chung's proposals call for spinning off some of Hyundai's companies, unloading his family's controlling interest in others, and consolidating those that are left. Hyundai sources say that even more drastic changes will follow.

Chung's move should have sweeping impact on other conglomerates facing pressure to loosen their stranglehold on Korea's economy. The chairmen of other *chaebol*, such as Daewoo, Samsung, Lucky-Goldstar, and Sunkyong, also will be forced to reorganize if Chung's gambit works. Their goal will be partly to offset criticism from the new government of President Kim Young-Sam. But at the same time, they want to revitalize their management ranks to compete globally.

AFTER 55 YEARS. Dismantling Hyundai's network, which accounts for about 10% of Korea's gross national product, will be painful for Chung, who in his 55 years at the helm has made it Korea's biggest *chaebol*. He will sell his family's controlling interest in Hyundai Heavy Industries Co., Hyundai Merchant Marine Co., and three other companies. The group will also sever ties with its insurance, hotel, and department store companies. By yearend, Hyundai could be broken into seven groups managed by Chung's sons, says a company source.

The drastic plan is a bold move by Chung to salvage whatever he

can of Hyundai. A government crackdown has led to an imposition of millions in back taxes and the jailing of Chung's fifth son on tax-fraud charges. Big Chung himself is facing trial on several counts of election-law violations and embezzlement of corporate funds. With so



CHANGES COME TO KOREA'S CHAEBOL

	1992 SALES
HYUNDAI	\$52 billion
Selling controlling interests in heavy manufacturing and shipping. Department stores, hotels, and insurance operations to be separated from group	
SAMSUNG	\$50 billion
Will focus on core electronics, machinery, and chemical businesses. Family is ceding more control to professional managers.	
DAEWOO	\$29 billion
Group's 20 companies to be reduced to five by 1994. Chairman Kim Woo-Choong is bringing in corps of younger managers.	
LUCKY-GOLDSTAR	\$31 billion
Company presidents getting more authority. Several subsidiaries have been merged.	



many troubles, Chung needed to make a dramatic gesture to satisfy Kim. "The changes should be for real," says a aide to Kim.

Other tycoons have also accepted that it's time to alter their groups' centralized structures. The Lucky-Goldstar Group, the electronics and petrochemicals giant, has given autonomy to many of its company presidents and merged several subsidiaries. Chairman Kim Woo-Choong of Daewoo is bringing in corps of younger managers. By 1994, source says, he will reduce his 20 member companies to five major independent units: trading, electronics, machinery, autos, and finance. The Samsung Group

has also given its managers more authority and will focus on electronics, machinery, and chemicals.

THE NEW ORDER. Kim Young-Sam is expected to keep the heat on the *chaebol*. He has the support of the Korean public fed up with the conglomerates' domination of the economy. The new government expects *chaebol* families to do more than just sell assets in some of their companies. "Founding families should pass the reins of management to professionals," says a government official, "in order to cope with the rapidly changing business reality."

Even without Kim, the *chaebol* would feel pressure to downsize. Democratic reforms have emboldened the country's once passive work force, and higher manufacturing wages have made Korean exports less competitive. As a result, the conglomerates need to focus on areas where they can be leaders, rather than spread themselves too thin. "We are ready for change," says Chey Jong-Hyun, chairman of Sunkyong.

Indeed, the dismantling of Hyundai may prove to be the group's salvation. By shedding some of his family's companies, Chung is betting that the Hyundai that remains will be better prepared to focus on autos and construction, its core businesses. "It looks like a very astute parring down," says Phillip D. Grub, professor of international business at George Washington University. "The core industries will still remain, and Hyundai will end up slimmer and trimmer organization." Hyundai is giving up its dominant position in Korea's economy. But Big Chung's group hardly down for the count.

By Larri Nakarmi in Seoul, with Bruce Einhorn in New York

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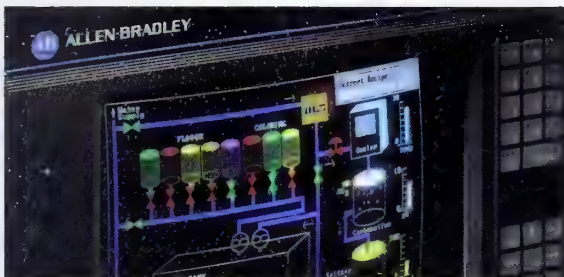
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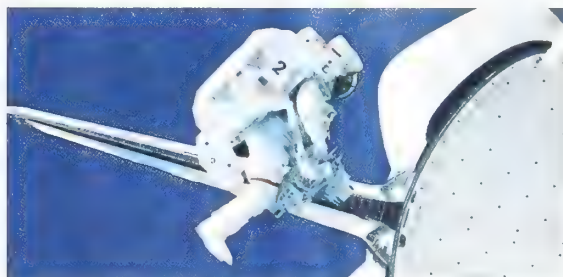
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IS YELTSIN MOVING IN FOR THE KNOCKOUT?

Fresh from his victory in Russia's April referendum, President Boris Yeltsin is cranking up his second spring offensive: a campaign for a new constitution. Yeltsin wants to create a strong presidential republic with a bicameral legislature—and soon. He is eager to replace the Soviet-era parliament, which so far has blocked much of his reform program. To advance his plan, Yeltsin is calling for a constitutional convention in Moscow on June 5.

Yeltsin stands a good chance of pulling off this new coup. The Russian President clearly has been strengthened by the referendum, which gave him a 58% plurality. Since then, Yeltsin has assumed a much bolder posture. He has openly defied Russian nationalist opponents by siding with the West against the Serbs over Bosnia.

At home, Yeltsin also is displaying more vigor. His economic-reform team recently extracted a pledge from central bank chief Viktor Gerashchenko to slash credits to state companies, even though it may cost jobs. The breakthrough deal, which aims to cut inflation to 10% per month from 20% today, will open the way for a \$3 billion loan from the International Monetary Fund. Yeltsin also has been giving privatization a needed push by speeding auctions of state companies. He has even ordered the dismissal of foot-dragging factory managers.

SWEETENERS. Meanwhile, parliament seems to be bending under the pressure of Yeltsin's April victory. Although the legislative body is pushing its own version of a new constitution, some conservative deputies are beginning to side with Yeltsin against his chief antagonist, Chairman Ruslan I. Khasbulatov.

To win, Yeltsin will have to take his case to Russia's increasingly restive regions. Far from homogeneous, Russia is a patchwork of 88 regions, including 21 ethnic republics. They have been asking for greater autonomy, a bigger share of tax

revenues, and more control of their oil and other resources. The convention could easily bog down in the sticky issues of regional rights.

The draft document Yeltsin's team has drawn up attempts to address these issues. It provides for a bicameral Federal Assembly that includes one body akin to the U.S. Senate, with equal representation from each region. But the regions want more. The trick will be giving them more power and a bigger share of the tax revenues without undermining Russia's unity or busting the federal budget.



YELTSIN: DEFIANCE HAS PAID OFF

PROFIT RIGHTS. Still, analysts expect the convention to produce a democratic, pro-market constitution that could be ratified this summer. Once passed, it should give a boost to foreign investment. In addition to a long list of human rights, the Yeltsin draft specifically guarantees the right to private property, including land, and the free movement of labor and goods. As it stands now, the draft even bans new laws that prevent taxpayers from making a normal profit. "It gives a legal guarantee for Western capital," says Viktor Mushinski, a Russian law professor. "The values spelled out are Western values."

The constitutional plan gives Yeltsin sweeping powers, including the right to dissolve parliament under certain circumstances. It also removes the central bank from

legislative control by letting the President appoint its chief.

But ratification won't be easy. One problem is that, technically, only the existing parliament can approve a new constitution. So Yeltsin is mulling strategies. He may appeal to voters in yet another referendum. Or he may ask the constitutional convention to adopt a new mechanism for approval. If his maneuvers pay off, Russia could wind up with a more effective government by the first snowfall.

By Deborah Stead in Moscow

GLOBAL WRAPUP

BOWING TO BUSINESS

President Clinton's efforts to win back business support go beyond retooling his domestic proposals. His decision to renew China's most-favored-nation trade status—a significant softening of his campaign stand on human rights—is the result of heavy lobbying by American companies. They are petrified of losing access to the fast-growing Chinese market. In Japan policy, the White House is mulling a major expansion of its Advisory Committee on Trade Policy Negotiations. The quasi-official group of CEOs, which includes Ralph S. Larsen of Johnson & Johnson and Lawrence A. Bossidy of

AlliedSignal Inc., was the first strong voice to urge that Clinton set numerical targets in trade talks with Japan.

JAPAN'S INSURANCE CARTEL

A new study on the Japanese insurance industry should provide potent ammunition for foreign insurers who believe they are being excluded from the market. The research by the American Chamber of Commerce in Japan reveals that 11 *keiretsu* insurers write more than 80% of nonlife insurance sold there. The 14 *keiretsu* studied buy more than 70% of their nonlife coverage from insurers that are members of their group. Such groups as Mitsubishi and Mitsui buy almost

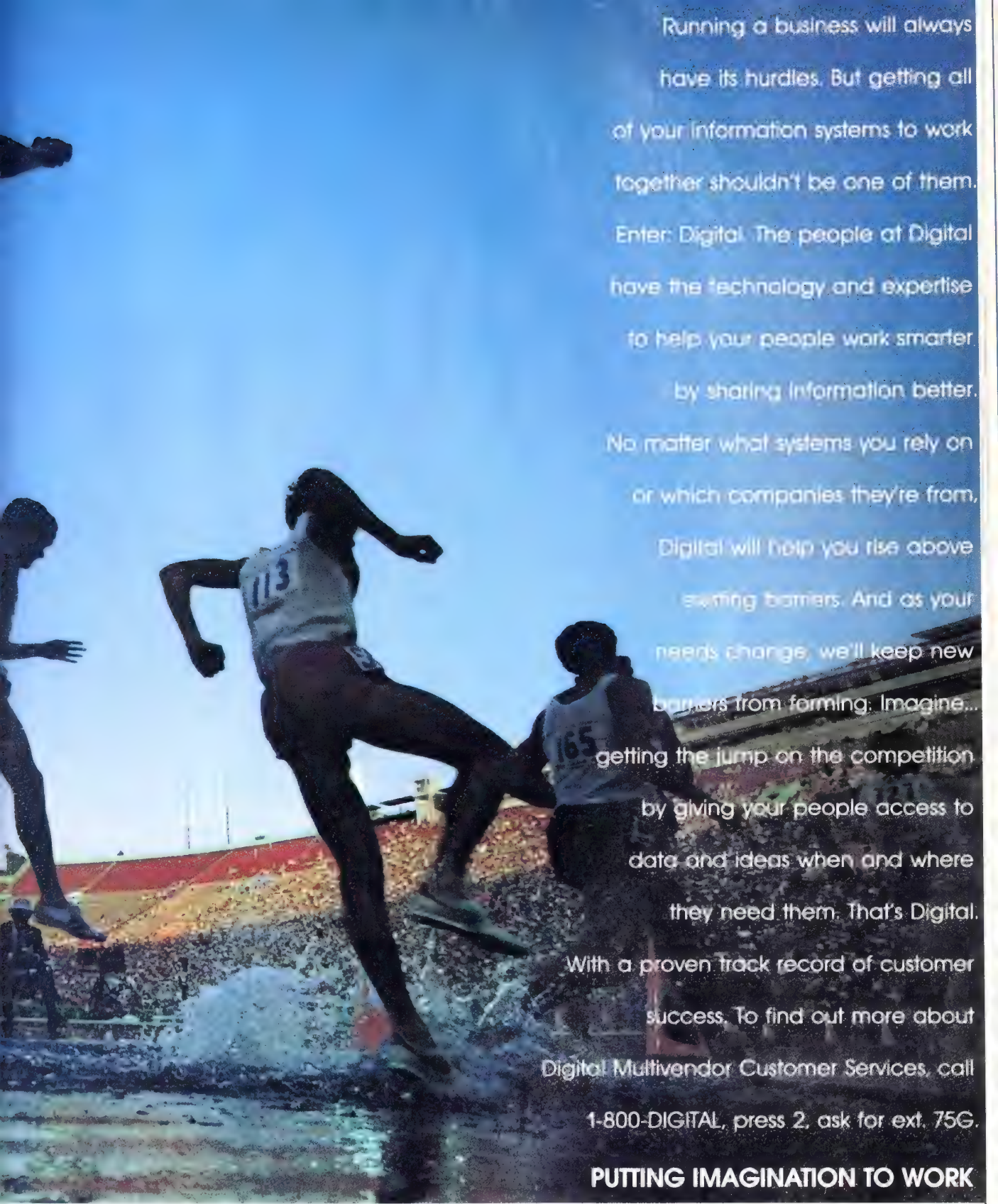
exclusively from one member insurer, according to the study.

A BASQUE CENTRAL BANK?

With Spanish Prime Minister Felipe González' Socialists and the opposition conservatives running neck and neck, Basque and Catalan nationalists could swing the June 6 general election. The regional groups want to extract a price for their votes and are demanding independent central banks. The Catalans are asking for a bigger return on the taxes they pay. The Basque parliament has already passed a bill forcing savings banks to move their reserves from the Bank of Spain to a newly created Basque institution.



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HOT PRODUCTS

SMART DESIGN IS THE COMMON THREAD



**HAPPY TALK:
MOTOROLA'S
CELLULAR PHONE
HOLDS PLEASANT
SURPRISES**

Apple's PowerBook computer. Gillette's Sensor razor. Reebok's Pump sneaker. Motorola's MicroTac cellular phone. Chrysler's LH cars. IBM's ThinkPad notebook computer. Different products, different markets, yet they're all wild commercial successes with one thing in common: smart industrial design. Leveraging the power of design is one of the hottest strategic games being played today. A handful of smart companies are making industrial design one of their core competencies and are using it to drive their entire product-development process, sharply increasing their chances of generating hit products—the kind of billion-dollar winners that make companies excel.

The Sensor, Pump, MicroTac, and the LHs are all on their way to becoming billion-dollar sellers. PowerBook and ThinkPad are already there. Like the Taurus, which in the 1980s lifted Ford Motor Co. out of the doldrums, these design-driven products are transcending the traditional norms of market success. Products such as My First Sony—a traditional boom box redesigned with bright colors and rounded shapes that appeal to preschoolers—define whole new categories.

LOTS OF PUNCH. "A hit product goes beyond just selling well," says Bob Brunner, the 35-year-old manager of industrial design at Apple Computer Inc. "A true hit product establishes an entirely new franchise in the marketplace. You can design these products, and they not

only win awards but sell like crazy, too." PowerBook is one example, having taken Apple from nowhere in the notebook market to No. 1.

How can industrial design deliver such punch? Because it can solve some of the most significant problems confronting corporations in the global economy of the 1990s. First, good design helps them get really close to customers. Unlike marketing, which focuses on statistical surveys to gauge attitudes and feelings, industrial design has traditionally taken an anthropological approach. Ethnographic tools, such as videotaping human behavior and observing the work environment, are the perfect vectors for connecting companies to their customers. "Industrial design understands the needs of the customer and knits the customer into the fabric of our product development," says Seth Banks, manager of market communications and industrial design at GE Medical Systems.

Another stubborn problem that design can help solve is how to

transfer new technology out of the lab and into the market. U.S. corporations can't afford a rerun of the 1970s and 1980s, when so many great American innovations, such as the VCR, lay fallow in the U.S. only to find product definition and market success in the hands of Japanese rivals. Because they can identify customer needs, designers can

also do a better job than engineers of picking out technologies, hidden away in the R&D labs, that can solve real-world problems. "Coupling the needs of users to advanced technologies is the key to our growth and survival," says Charles L. Jones, head of Industrial Design/Human Interface Strategy at Xerox Corp. "Industrial design links the two."

In fact, design could emerge as the discipline that brings together the myriad parts of the modern corporation. As organizations deconstruct themselves into "virtual corporations" made up of autonomous in-house units and various external



**LOOKING SHARP:
GILLETTE'S
SENSOR RAZORS
ARE A PRODUCT
DYNASTY**

partners, the old headquarters' bureaucracies are disappearing. Industrial design's ability to integrate information from functional experts and outside partners such as distributors makes it the glue that can hold teams together and give them direction.

It's no coincidence, then, that the companies that are racing to market with winning products are the ones that have elevated industrial design to a position of prominence. "The lines are blurring between the traditional divisions of labor among design, engineering, and manufacturing," says Rudy Krolopp, director of industrial design at Motorola Inc. "Reduced cycle times are driving product managers to develop creative ways to bring the right product to market quickly, and the industrial designer is at the core of this process."

GOOD QUESTION. Take Apple's PowerBook. The first portable Mac was an engineering feat: a portable stuffed with so many bells and whistles that it weighed in at 17 pounds—and sank in the market. When Brunner took over Apple's design department in 1990, he was asked to help. His industrial designers began reworking the portable from the outside in, from the point of view of the user. Under Brunner's guidance, the entire PowerBook team—software designers, industrial engineers, marketing people, and industrial designers—left the office to observe potential customers using competing notebook computers. "We looked at other notebooks and saw that they were still really desktop units, only made smaller. We asked the question: 'How do people use it?' The answers drove the product," says Brunner.

The Apple product-development team found that people used laptops on airplanes, in cars, and at home, often in bed. They discovered people didn't really want "small" computers per se, they wanted mobile computers. Size was just one dimension to that. They saw people in airplanes searching for a bit of surface to move a computer mouse and a place to put their hands.

The two distinctive features of the Power-



**ROOMY DESIGN:
THE LH CARS
FROM CHRYSLER
GIVE PASSENGERS
PLENTY OF SPACE**

Book, the TrackBall pointer and the palm rest in the front of the keyboard, are the result. They make the notebook compact, easy to use, and distinctive. "The user focus permeates everything we do now," says Brunner. "There's no more of: 'Here's a great technology, let's go sell it someplace.'"

That's how Ingersoll-Rand Co. did business—until the Japanese began eating its lunch in the 1980s. Until then, Ingersoll-Rand created

products the way most every other U.S. company did: sequentially. Ideas went from marketing to engineering to manufacturing to sales. Design was

brought in late to add a dash of good looks. In 1989, that all changed. Says Jim Stryker, manager of product development in the Power Tool Div. at Ingersoll-Rand: "We said for 100 years we've been doing products from the inside out, but these tools are used by people from the outside in." Stryker hired Group Four Design in Avon, Conn. The designers immediately sent everyone to factories where the tools would be used. Customers and distributors were brought in as advisers.

The team found that half the people using wrenches on an auto assembly line were women. The result? A two-size variable-grip wrench that was made even easier to hold by using rubberized plastic. An unexpected bonus: The wrench was a hit in Japan, where hands are smaller.

Smart design even offers hope for America's most beleaguered giants. IBM's ThinkPad notebook computer is testimony to that. After 19 years with Big Blue, Tom Hardy became manager of the IBM Design Program in Stamford, Conn., in 1989. "IBM wasn't being perceived as innovative in the marketplace," Hardy says. He felt it still had great technology but it wasn't being transferred into the right kind of products.

JAMMED MARKET. The first step was persuading IBM to spend millions to link all 15 of the company's design studios around the world electronically. With a

**RED-HOT BOX:
BRIGHT COLORS
HAVE A SPECIAL
APPEAL FOR
TODDLERS**





**EASY TO HOLD:
INGERSOLL-
RAND'S
WRENCH HAS A
VARIABLE GRIP**

new Sony color-imaging system to swap high-resolution digitized photos over regular phone lines, Hardy built a virtual product-development team. It included Kazuhiko Yamazaki in the IBM Design Center in Yamato, Japan; Richard Sapper, an independent design consultant in Milan, Italy; Ted Selker and Joe Rutledge in the IBM Thomas J. Watson Research Center in Yorktown Heights, N.Y.; John Wiseman of IBM's Personal Systems Div. in Boca Raton, Fla.; plus Hardy.

To succeed in the already crowded notebook market, IBM badly needed a way of differentiating ThinkPad. Hardy pushed Sam Lucente, the program manager who was on his staff, to roam all the IBM research and development labs in search of buried treasure. "We needed to pull research into product lines faster than going through channels," says Hardy. In 1991, they found Selker and Rutledge in Yorktown working on a funny-looking cursor device, shaped like a pencil eraser, that fit in the middle of the keyboard. At that point, it was destined for a larger desktop PC. "We saw immediately that the TrackPoint cursor could be a terrific differentiation factor for our notebook, and we wanted it," says Hardy. The R&D people built a quick prototype, which Hardy used to chat up marketing folks and top management. "Corrigan [now president of the IBM PC Co.] thought it was a terrific idea."

Yorktown transmitted the TrackPoint data over the Sony system to Yamazaki in Japan, who became the ThinkPad team leader. Yamazaki liked the new cursor but wasn't satisfied. He wanted something more for the new IBM notebook. Yamazaki knew IBM had been working with Toshiba Corp. in a joint venture building a color, liquid-crystal display screen. The 10.4-inch, high-resolution screen was bigger than those in most laptops, and IBM had earmarked it for a low-voltage "green" desktop PC. Yamazaki and Hardy decided they wanted it for themselves. Yamazaki was able to design and engineer the notebook so that the display fit the smaller physical envelope of the notebook.

The result? One of IBM's best sellers in years. "We got it all down up front," recalls Hardy. "We transferred new technology, went into prototyping quickly, defined the product early, and understood the cost constraints before moving to manufacturing. But the key was bridging the gap between technology and the user."

Corporations are increasingly turning to outside design consultancies to help search for new technologies to develop new products. When Reebok International Ltd. was looking for a new way to compete with Nike Inc., it turned to Design Continuum. Gianfranco Zaccai, the senior partner of the Boston-based design shop, found a solution in existing medical technology—the inflatable splint. Developed by a Reebok/Design Continuum team, the inflatable splint technology was transferred from the hospital to the sneaker to become the successful Pump.

Design management is also getting more corner-office attention. Like a growing number of CEOs around the world—including John Sculley at Apple and George M. C. Fisher at Motorola—Alfred M. Zeien, chairman and CEO of Gillette Co., is directly involved in managing his company's design-driven product-development process.

A GOOD FIT. When Gillette decided to create the Sensor razor, it set up three hurdles. First, it had to have terrific "functionality," which meant it had to work well, fit in the hand comfortably, and fit on the medicine-cabinet shelf. It also had to convey a high-tech image, suggesting a precision tool, not a health-and-beauty aid. Finally, the new razor had to be designed for manufacturability, with cost

of supply and assembly a major factor.

It took years for Gillette to develop the Sensor's new technology—a laser-welded twin floating-head cartridge. But when the company tried to put the high-tech head on a plastic handle, like the ones used in throwaway razors, the chairman didn't appreciate it. "He said you are underachieving in design, and the plastic didn't capture the exciting potential of the high-tech cartridge," recalls Edward DeGraan, senior vice-president for manufacturing and technology. "We had to start all over again."

At this point, the Gillette team did what they should have done in the first place: check with the users. Customer



**HIGH STEPPER:
REEBOK USED
MEDICAL
TECHNOLOGY TO
CREATE ITS PUMP
SNEAKER**

research showed that people wanted a solid instrument, not a throwaway. The design solution was a metal-based, silver-colored handle.

Using 3-D computer imaging, Gillette's designers quickly moved through a series of prototypes. With each iteration, a data file for building manufacturing tools and creating parts was compiled. When the sensor prototypes became close to the finished product, the data base was used to begin tooling and organizing manufacturing. "We edge closer and closer to full manufacturing as we

design," says DeGraan. The sleek metal handle was a perfect complement to the high-tech blade. The Sensor is such a hit that Gillette went on to design a separate Sensor For Women. Not only has it won a gold Industrial Design Excellence award for 1993, it has taken the No. 1 spot in the market.

MANY SPATS. Stitching teams together from independent engineering, design, marketing, and manufacturing departments is no cinch. Take Motorola's experience with the MicroTac cellular phone. In 1986, it created a team to build a phone small and light enough to fit into a shirt pocket. Watching consumers with prototypes, they were horrified to discover that people were always dropping portable phones.

The team agreed that the product had to be able to withstand a 4-foot fall—but that's about all. "We had lots of disagreements," recalls Krolopp. "The materials and supply people wanted a thick casing for strength. But designers wanted thin walls to keep the package pocket-size. They pushed GE plastics and other suppli-

APPLE'S POWERBOOK AND IBM'S THINKPAD



ers to go further than ever before with plastics to give the product both strength and thinness. Instead of walls $\frac{1}{8}$ inch thick, they were able cut it to $\frac{1}{16}$ inch.

Battles raged over a host of other issues. Designers wanted a lighted keypad, but the engineers said it would take up space and drain power. And so on. "Teaming isn't at all easy," says DeGraan. "There's a lot of push and shove going on." But by managing the design and development process so well, Motorola came up with a product that de-

finied the market and had a solid year's head start over Japan's first pocket-size phones.

Designing to surprise the customer is the least understood factor in designing for hit products. But that extra delight may provide just what is needed to push a good-selling product into the stratosphere. Motorola built two surprises into MicroTac. First, it delivers an hour and 10 minutes of talk time, not just an hour. And when people drop their MicroTac's on the floor, they discover not only that the phone still works but that the plastic doesn't scratch. Chrysler Corp.'s cab-forward design in its LH cars not only offers wider doors for easier entry and exit and better visibility in the front but it also gives passengers in the back enormous leg room. Passengers have been known to tap the driver on the shoulder to express their surprise.

Keiichi Totsuka, chief design manager at the Sony Design Center in Park Ridge, N.J., expresses the change in the role of industrial design metaphorically. "Designers are like lighthouse keepers for the engineer, who is like a ship. The engineer can go anywhere with his technology but doesn't know which direction to take. In the 1980s, we had many ships at sea going their own way. In the 1990s, the lighthouse keeper must guide the ships. We must design the right product the first time."

By Bruce Nussbaum in New York, with bureau reports

MANAGING FOR DESIGN SUCCESS

- ▶ **DESIGN FROM THE OUTSIDE IN** Make the customer want the product, not the technology, central to all product development.
- ▶ **DIVE DEEPLY** The only way to increase the power of design is to team up with all the relevant business units where your company can help them deliver new products. Evangelize to make everybody aware of how design can help the business succeed.
- ▶ **PARTNER WIDELY** Traditional businesses are decentralized into virtual corporations, made up of internal and external departments. Designers must partner with all stakeholders—the in-house folks, marketing as well as the people outside, say, manufacturing and distribution.
- ▶ **DEFINE PRODUCT UP-FRONT** It's critical to get the right product for the right market before committing to tooling and manufacturing. Diligent engineering helps screen out concepts that won't fly.
- ▶ **GET PHYSICAL FAST** Prototyping provides visual communication. It offers quick feedback from both users and managers. Fast prototyping equates time saved in product development cycle.
- ▶ **DESIGN FOR MANUFACTURABILITY** Always design with cost of materials—quality, cost, and delivery. Manufacturing isn't a cost; it's important to product success as ergonomics, aesthetics, and function.
- ▶ **SURPRISE THE USER** Always build in something extra. Delivering more than the customer buys creates product loyalty and increases the chances of creating a truly "hit" product.

WINNERS

The Best Product Designs of the Year

What's a winning design? It's what transforms something as mundane as a barbecue grill or a miter saw into works of art that also perform well. These are just some of the winners of the 1993 Industrial Design Excellence Awards (IDEA) that are really stirring the product pot. And all the winning companies are making design the heart of their product-development strategies.

Hurdle rates have been going up in this decade-old design contest for some time, but in 1993 it proved especially tough to win the gold. "The level of submissions was higher than any other competition I've juried," says Peter Bressler, chairman of the IDEA eight-judge panel and principal of his own Philadelphia-based Paradigm: design.

BACK-ROOM BRAWLS? The competition was particularly rough in computers. It is clear that much of the best industrial design in the world is taking place in the U.S. computer industry. The reason: As products become more indistinguishable technologically, differentiation is shifting to design—both in how the physical product looks and how it shows



off its programming and data. The focus is on usability.

There were lots of battles behind the scenes according to the jurors. The EO 440 pen-based Personal Communicator, with fax, phone and portable PC in one (designed by frog design for EO Inc. and sold by American Telephone & Telegraph Co.), was knocked down to a bronze because most of the jury didn't like its side "ears," which house connectors and serve as handles. Other jurors thought the ears were a great

design solution.

One of the great surprises of this year's IDEA contest is the glimmer of a revival in consumer products. The level of design is beginning to creep upward after years of neglect, according to jurors. Black & Decker Corp. won a silver award for its 12-inch Compound Miter Saw by its DeWalt Industrial Tool division, and a bronze

Bissell Inc. won two silvers, including one for its Trio Vacuum. Gold IDEA awards went to American Tourister Inc.'s Genesis Softside Easy turn luggage, new My First Sony models for kids, and the striking Sensor for Women razor. Knoll Group won a

prize for environmental design and Steelcase Design Partnership won for furniture.

APPLE WON A SILVER FOR ITS EYE-CATCHING ADJUSTABLE KEYBOARD





**BLACK
& DECKER'S
12-INCH MITER
SAW WON A
SILVER AWARD**



**NISSAN TOOK
HOME A
SILVER FOR
ITS QUEST
MINIVAN**

There were more entries from large corporations this year than ever before—and more winners. Apple Computer Inc. came away with the most awards, two gold, a silver for its eye-catching Adjustable Keyboard, and one bronze. Hewlett-Packard Co. and NCR Corp. were close behind with three awards apiece, while Boeing Co., IBM, and General Motors Corp. received two each. Chrysler Corp. won a gold for its LH sedans, and Nissan received a silver for the Quest, designed in San Diego.

FEWER ENTRIES. The larger design firms also won big, reflecting the growing consolidation in the consulting business. ZIBA Design led the pack with seven awards—two golds, four silvers, and a bronze. Design Continuum, frogdesign, IDEO, Lunar Design, and SG Hausner won three each.

Overall submissions from both corporations and consultancies, however, dipped from 753 in 1992 to 678 this year. The slow economic recovery has been hard on independent design shops, although business has picked up in recent months. There were 31 gold winners—up from 25 last year—26 silver, and 34 bronze.

To be eligible to enter the annual IDEA contest, U.S. citizens and international members of the Industrial Designers Society of America must have designed a product that was manufactured and on the market by Dec. 31, 1992.

An independent jury composed of professional designers evaluated the submissions for the society.

BUSINESS WEEK is proud to support the IDEA contest and takes a close look at eight gold medalists and one silver to tell the intriguing story of why design is so hot in the business world today.

By Bruce Nussbaum in New York

THE WINNERS IN 1993...

Here are many of the top design firms and corporations whose products won Industrial Design Excellence Awards in 1993:

DESIGN FIRMS	AWARDS			
	GOLD	SILVER	BRONZE	TOTAL
ZIBA DESIGN	2	4	1	7
DESIGN CONTINUUM	1		2	3
FROGDISEIGN			3	3
IDEO	1		2	3
LUNAR DESIGN	1		2	3
SG HAUSER	1		2	3
FITCH	1	1		2
STUDIOS ARCHITECTURE		1	1	2

CORPORATIONS

APPLE-COMPUTER	2	1	1	4
HEWLETT-PACKARD	1		2	3
FACE/INTEGRATED		2	1	3
RUSSELL		2		2
BLACK & DECKER		1	1	2
BOEING	1	1		2
GM	2			2
IBM	2			2
THE NICOLL GROUP		1	1	2
YOUNG & RUBICAM PARTNERSHIP			2	2

*AWARDS FOR FIRM, NOT INDIVIDUAL DESIGNER

...AND OVER TIME

Winning year after year takes dedication and talent. Here are the very best in recent years.

DESIGN FIRMS	1980-92*	1993	TOTAL
IDEO**	23	3	26
ZIBA DESIGN	13	7	20
FROGDISEIGN	15	3	18
FITCH**	15	2	17
LUNAR DESIGN	11	3	14
AMBAZE DESIGN	11		11
DESIGN CONTINUUM	8	3	11
GROUP FOUR	9	1	10
SG HAUSER	7	3	10
TECHNOLOGY DESIGN	8		8

CORPORATIONS

GENERAL MOTORS	16	2	18
HOK	12	3	15
IBM	12	2	14
APPLE	9	4	13
STEREOLITE	8	2	10
CHRYSLER	8	1	9
HERMAN MILLER	7	1	8
FISHER PRICE	5	1	6
TEXAS INSTRUMENTS	6		6

*TOTAL AWARDS IN YEAR **AWARDS TO FIRM, NOT INDIVIDUAL DESIGNER
***AWARDS FOR FIRM, NOT INDIVIDUAL DESIGNER



THE CLEANER PATIO SIZZLER

THERMAL ELECTRIC GRILL
DESIGNER: FITCH/
THERMOS CO.

Firing up the grill for a cookout is as American as baseball and blue jeans. But worries about carcinogens and pressure to cut down on pollution are leading people to look for alternatives to burning charcoal.

Thermos Co.'s award-winning product, the Thermal Electric Grill, is designed to appeal to suburbanites and city dwellers for whom gas is not a reasonable option. The eye-catching grill resulted from a collaboration between engineers from Thermos in Schaumburg, Ill., and industrial designers from Fitch Inc. in Worthington, Ohio.

Team members visited consumers' houses to videotape cookouts. They saw that while people invested a lot of money in fixing up their backyards, their grills looked tacky by comparison.

The Fitch-Thermos team decided to build a grill that was

clean, compact, stylish, and convenient. They took the vacuum-insulation technology Thermos was famous for and put it together with a grill the company was already working on. The team moved to prototypes very quickly. Consumers were brought in to use them, and adjustments were made. The control panel was moved from the side to the front. The tool holders were repositioned to the back and side of the table, within arm's reach but away from the cook's body.

Thermos claims that the Electric Grill barbecues as well or better than gas or charcoal, and better than any other electric grill on the market. No matter where the food is placed on the grill, it is cooked evenly. Enough grease is captured in a cup beneath the grid to give the meat a smoked flavor. A domed lid uses vacuum technology similar to a Thermos bottle to seal in the heat, moisture, and flavor. It's cool to the touch.

The grill uses half the energy of other electrics. The basic model runs \$299. Souped-up versions sell for \$399 to \$499.

By Sandra Jones in Schaumburg, Ill.



A FOLD-OUT PRINTER

DESKJET PORTABLE
DESIGNER: HEWLETT-
PACKARD CO.

You never know when inspiration will strike. In James J. Girard's case, it was on a living-room sofa, where the Hewlett-Packard Co. industrial designer was watching the 1951 sci-fi classic *The Day the Earth Stood Still*. He had been puzzling over how to embed indicator lights into round buttons to save space in a portable computer printer he was designing. Then, on the TV, a giant robot appeared, shooting death rays from a narrow slit in its rounded helmet. Suddenly, Girard had his answer: a thin strip of clear plastic across the middle of the button, backlit to show it's turned on.

That's just one detail that sets HP's award-winning Deskjet Portable Printer apart from other printers on the market—and from HP's own lineup.

Girard didn't really set out to create such a sleek look. His task was to cram the original Deskjet into a package half the size. The clean, flat sides, for instance, make the printer easy to pack. And the rich blue-black color does more than just make the printer look smaller. It doesn't show the dirt.

Girard also sought to make the machine a snap to use. Says IDEA juror Chipp Walters, a principal at Design Edge in Austin, Tex.: "He did a nice job communicating in the design how the printer works." The ease with which the compact package unfolds into a working machine recalls Transformer toys.

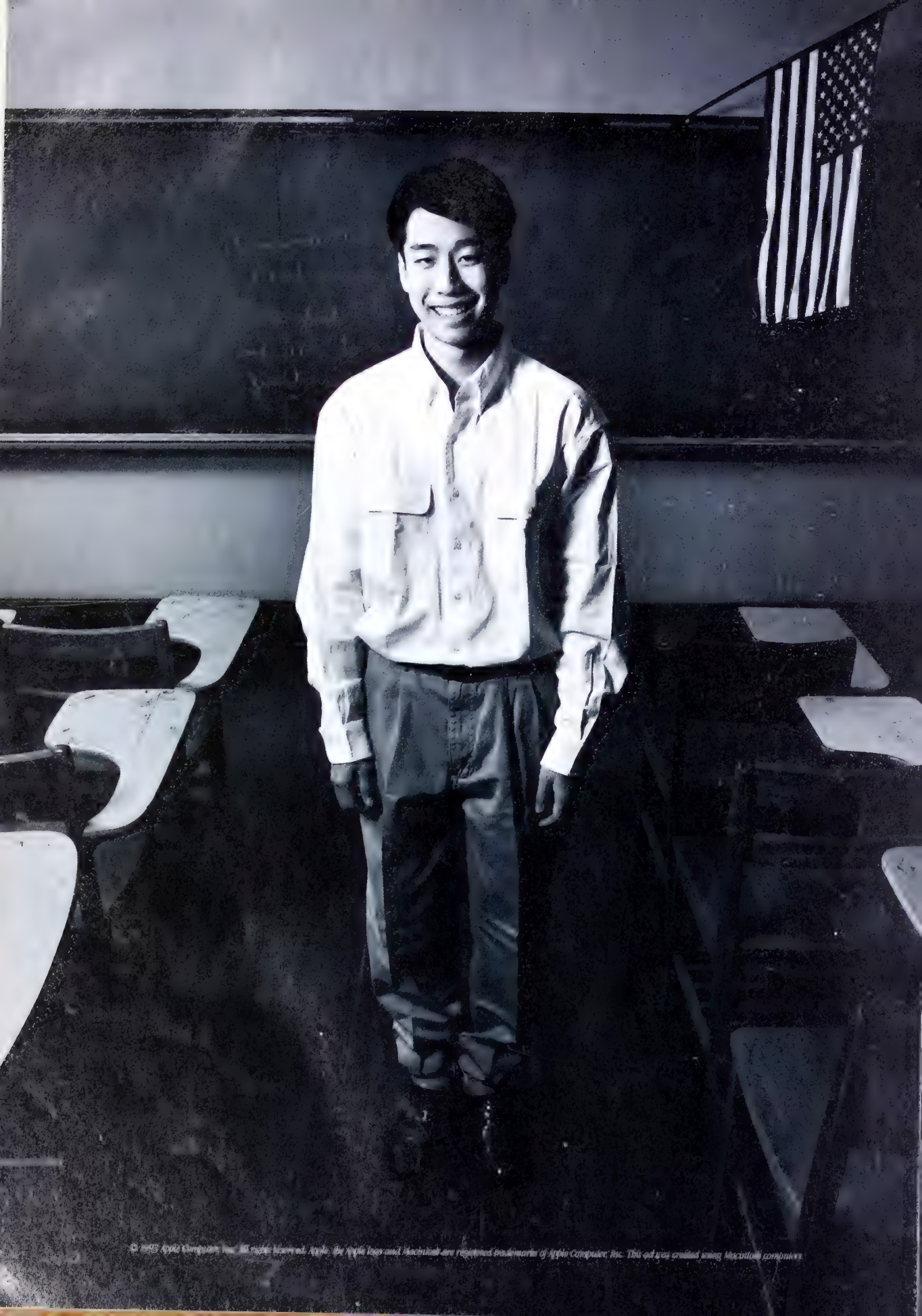


Another important feature of the design was to include a sheet feeder that didn't take up much space. With other portables, you have to feed the paper in laboriously, one sheet at a time, or else haul around a bulky multiple-sheet feeder. To avoid those limitations, Girard designed an optional sheet feeder that attaches seamlessly to the Deskjet printer, even when it's

folded up for travel.

The Deskjet Portable has been particularly popular in Japan, but not as a portable. Desk space is so tight in Japanese offices that workers want something that they can easily shove into a drawer—no matter how good it looks.

By Robert D. Hof in San Francisco



In this classroom, he's not just a student. He's a teacher.

Students teaching other students, working together in teams to learn. It's all part of a concept called collaborative



learning — and it's transforming the way classrooms work. Apple® Macintosh® personal computers are uniquely suited to this new kind of learning environment. With the built-in networking and file-sharing capabilities of Macintosh, students can easily share information between computers as they work together on projects. And because Macintosh operates in such a simple and intuitive way, students at any level can use it to work with others. In the process, they develop their social and communications skills. And learning becomes more exciting, more memorable and more meaningful. At Apple, we're working together with educators to prepare students for the most important test of all: their future.



A p p l e L e a r n i n g S o l u t i o n s

A SHOT IN THE ARM FOR SALES?

BIOJECTOR
DESIGNER: ZIBA DESIGN

Nobody likes needles. In the age of AIDS, nurses and doctors want to give injections without the danger of accidents. And anything that does away with hypodermics would be welcomed by the nation's preschool set.

Bioject Inc. in Portland, Ore., thought it had the ideal solution. The eight-year-old company, which went public in 1988, had been test-marketing a product, the Biojector, on the West Coast since 1990. The handheld device uses compressed carbon dioxide to shoot vaccines through the skin, making injections quicker, safer, and less intimidating.

Despite positive feedback on the Biojector concept, sales were limited. The device could deliver only one standard dose of medicine, 0.5 cc, which meant it wouldn't work with antibiotics. Its loud hiss startled some patients. And the long, metallic, flashlight shape made it awkward to use.

When Richard B. Hollis became Bioject's chief operating officer in April, 1992, after 18 years at Baxter, Genentech, and other companies, his first decision was to fix the Biojector's problems. The move took guts: Investors were pressing for solid sales income, and a redesign meant delay. But he set his engineers to work on a variable-dose, noiseless version. To get it into a user-friendly package, he hired Ziba Design, just down the road in Portland.

Hollis gave Ziba eight weeks to get it right. Starting in mid-April, 1992, six designers, led by Ziba President Sohrab Vossoughi, brainstormed. Hollis marshaled his own engineers to experiment with designs that once seemed impossible. The two teams met once a week. Ziba developed prototypes and asked for feedback from users such as nurses. Bioject found ways to vary the dose and cut out the hiss.

Ziba's biggest challenge was winning over Bioject's engi-



neers. They were proud of the sophisticated mechanism they had created, and some doubted that an outside industrial-design house would be able to add any value. Bioject's marketing people supported a design overhaul but could not sway the engineers. It took personal intervention by Hollis

to get Bioject's engineers to cooperate.

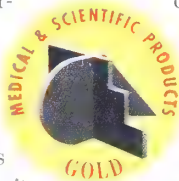
For example, Bioject's engineers had designed a safety switch that had to be held down while the injection trigger was pressed. The marketing folks thought that made the device too hard to use. They wanted the safety feature built in so the trigger would not fire at all unless it was ready to inject. Ziba tipped the balance, persuading Hollis to get his engineers to change it.

Bioject's engineers also balked at the idea of changing the shape of the tubular device. Ziba wanted to cut it in two, moving the carbon dioxide cartridge from behind to underneath. Hollis pushed his engineers to do it.

The improved version that the two teams came up with, dubbed Biojector 2000, looks very different from the original. It is more compact, and the trigger mechanism, once awkwardly located on top of the device, is where the finger expects it—underneath. Instead of shiny metal, the aluminum device is painted a pleasing gray, with a light-blue accent on the trigger mechanism. "We have a design that's not only futuristic but elegant," says Hollis, who speeded up production of the \$995 Biojector after signing a nationwide distribution agreement in April.

Hollis aims to build Bioject into a \$100 million business by the year 2000. After paltry revenues of \$1 million last year and with the company's stock price stagnating, he will need to ramp up sales quickly to gain Wall Street's respect. He is counting on product design to get him where he wants to go.

By Dori Jones Yang in Seattle



BEYOND TALK AND CHALK

LIVEBOARD
DESIGNER: XEROX PARC/
PALO ALTO DESIGN GROUP

Xerox Corp. has good reason to pay attention to any design process that yields both an innovative technology and new products it can bring to market. Its failure to do so a decade ago meant that some of the best ideas emanating from its Palo Alto Research Center (PARC) in California wound up enriching other compa-

nies. Two multibillion-dollar examples are the PARC graphical-user interface, which went on to become a smashing success as Apple Computer Inc.'s Macintosh, and the center's printer research, which led to Hewlett-Packard Co.'s market-dominating Laserjet.

In the 1990s, Xerox is obsessed with reversing that trend. Its entry form for the 1993 Industrial



Design Excellence Award states that Xerox' "primary objective was to transform technology developed in a research environment into a viable consumer product." The gold award that it received for Liveboard, an electronic blackboard, certainly shows that it has learned a lesson.

Tapping into the booming business in videoconferenc-

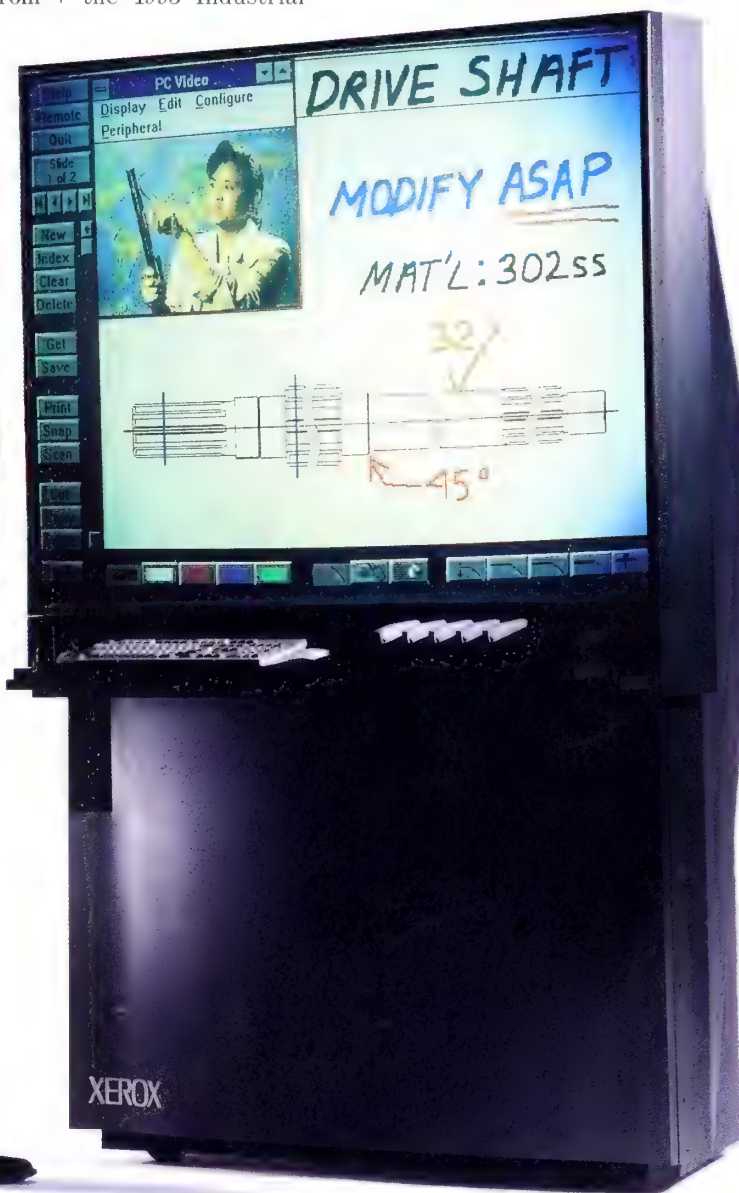
ing, the Stamford (Conn.) office-equipment company is marketing an electronic blackboard that incorporates computer and video technology. Liveboard provides an on-line forum for interactive meetings anywhere in the world. The machines, priced at \$49,500 each, allow participants to share information and to work simultaneously on the same problem.

Liveboard uses a rear-projection, liquid-crystal-display screen, an Intel Corp. 486-based PC that runs Microsoft Windows, and a wireless pen. Starting with a blank screen, users of Liveboard can communicate in a group or with far-flung colleagues.

When one or more Liveboards are connected, through phone lines, they will enable, say, auto designers in Detroit, Tokyo, and other cities to work together on a new car, download the finished design into a PC, and print out a color copy of the sketch on a laser printer—all in real time.

A menu of options helps even first-timers use the blackboard, and the look of the system is inviting rather than threatening. In addition, the Liveboard is self-contained, so it can be easily moved from room to room. So far, Xerox says about 10 of its machines have been ordered, by customers in education and in the automobile and insurance industries. About half the sales orders have come from overseas.

By Tim Smart in Stamford, Conn.



[LARRY, MOE & CURLY]

[RHYTHM & BLUES]

[MICROSOFT EXCEL, WORD, POWERPOINT & MAIL]

[ROY & TRIGGER]

[BACON, LETTUCE & TOMATO]

[FRED & ETHEL]

[WILBUR & ORVILLE]



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ROBO-LIBRARIAN

**TAPE LIBRARY
DATASERVER
DESIGNER: IBM**

Microprocessors. Microcomputers. Micromachines. It seems the world's electronic products never stop shrinking. So at first glance, IBM's Tape Library Dataserver looks like a throwback to the huge, hulking computers of yesteryear. Indeed, at about 8 feet wide by 8 feet tall and up to 92 feet long, it's the biggest machine IBM has ever made.

But for good reason. The Dataserver is made precisely for very big companies, such as American Express or Sears, that store huge amounts of archival information on transactions, customers, inventory, and employees. The stripped model, which stores 42 trillion bytes of data, lists at \$400,000.

But the most striking thing about the Dataserver isn't how much it holds, but that you can actually see how the information is retrieved. Behind a glass ceiling and doors, a bright yellow industrial robot zips up and down a track in response to requests for information from terminals at a customer-service center or a human resources department. With a surprisingly fluid motion, the robot uses cameras mounted in each "hand" to locate one of up to 18,900 numbered tape cartridges. Then, it grabs the cartridge and inserts it into a reader that, in less than a minute, flashes the information on the computer screen of the

person who requested it.

Why display the robot when there's usually nobody around to see it anyway? "We wanted to humanize the technology by showing it to people," explains IBM designer Martin J. Marotti. In the rival Storage Technology Corp.'s machine, the robot can't be seen from the outside. It doesn't hurt that the robot immediately grabs the

attention of a potential customer. Admits Marotti: "We wanted a theatrical effect."

And it sure doesn't look much like a typical IBM product. Marotti even departed from IBM's customary cream motif to make the housing black. Like the wildly successful ThinkPad notebook computer, the Data-



server represents a new freedom in design at IBM. "The Dataserver is an important statement that it's a new era for us," says Marotti. "A lot of designers are itching to do things differently now that we're getting more freedom." So far, so good.

By Robert D. Hof in San Jose, Calif.



CADDY'S 295-HP SMOOTHIE

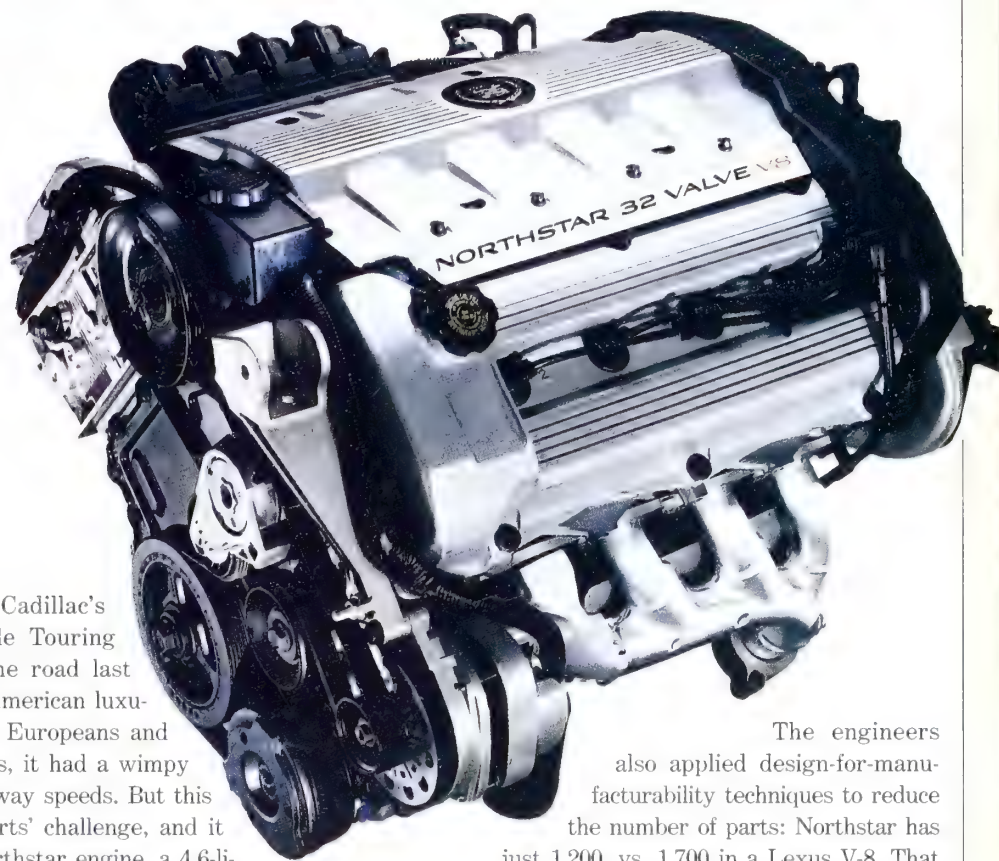
**NORTHSTAR ENGINE
DESIGNER: GENERAL
MOTORS CORP.**

When Cadillac's Seville Touring Sedan hit the road last year, the critics raved. Finally, an American luxury car that could compete with the Europeans and the Japanese. The only problem was, it had a wimpy engine that ran out of steam at highway speeds. But this fall, Cadillac responded to the imports' challenge, and it has come up with a winner: The Northstar engine, a 4.6-liter, aluminum, 32-valve V-8, delivers 290 foot-pounds of torque and 295 horsepower. The engine is paired with the smooth-shifting electronic Northstar transmission and provides Cadillac's first completely new power train in more than a decade.

For the 1993 model year, the system was added to the STS and Eldorado Touring Coupe, and a retuned version of the engine, with a maximum 270 horsepower, is available on the Eldorado Sport Coupe. Now, sales of those Northstar-equipped models are outstripping supply. Models with the old 200-horsepower engine are languishing in showrooms, even though they list for thousands less than the Northstar-equipped versions.

The quiet, smooth-running Northstar system is a good match for the sleek STS and stylish Eldorado. Even at 70 mph, a tap on the accelerator delivers a surge of power that allows a quick move into the passing lane, delivering a race-car zip that today's luxury-car buyers are accustomed to. A two-piece engine block, usually found only in racing engines or exotic sports cars, provides greater rigidity and quieter running.

Cadillac engineers knew that the Northstar had to match—or beat—the world's best engines. So they tore apart and studied everything from Honda four-bangers to a BMW V-12. Once design work had begun, computer simulations helped reduce the trial and error that is typically needed to fashion parts that are lightweight yet strong.



The engineers also applied design-for-manufacturability techniques to reduce the number of parts: Northstar has just 1,200, vs. 1,700 in a Lexus V-8. That simpler design helps reduce the manufacturing time per engine by nearly 60%.

The other components of the Northstar "system" are Cadillac's new 4T80-E electronically controlled transmission and road-sensing suspension. With Northstar's increased power, Cadillac engineers wanted to balance the power train with a new suspension to maintain taut, stable handling without a harsh ride.

The road-sensing suspension they came up with—which is standard on all Northstar-equipped cars—is computer-controlled to improve ride comfort and cornering. The suspension has sensors that "read" the road, adjusting shock absorbers and struts in milliseconds when the car hits a bump or rut. It's fast, too: Even at 60 mph, there's a reading once every inch of road for each wheel.

Finally, Cadillac wanted owners of Northstar to be proud enough to pop the hood and show off the engine. So they asked the design staff at General Motors to spiff up its appearance. The group added a sleek, fluted cover on top of the engine, with "Northstar" emblazoned across the side. And the designers routed spark-plug wires neatly along a recessed channel in the ribbed valve covers. Best of all, owners who want to ignore the engine certainly can: According to Cadillac, this power plant won't need a tune-up for 100,000 miles.

By Kathleen Kerwin and David Woodruff in Detroit





'YOUR FRIEND AND PLAYMATE'

**MACINTOSH COLOR
CLASSIC
DESIGNER: APPLE**

Bob Brunner, Apple Computer Inc.'s manager of industrial design, likes to describe his computers in fond, emotional terms. By his reckoning, the Macintosh LC, introduced in late 1990, is "cuddly." This year's award-winning Macintosh Color Classic is "like a very friendly little gnome," he says. "It's the creature that is your friend and playmate." O. K., it's not quite Barney. But Apple's new design look is, well, cute. And the \$1,389 Color Classic, introduced last February, is the latest example of that.

The designers say the Color Classic is "animated," that it has a warm and fuzzy personality. There is almost an ET look to it: a big head with looming eyes (the computer screen), a curling lip (the floppy-disk slot), a dent in the forehead (the microphone), and feet that demand attention (the stand that props it up). "It becomes a variety of characters, depending on who's looking at it," says Classic designer Larry Barbera. He notes that colleagues once dressed the Classic in miniature Nike tennis shoes.

The irony is that Brunner's team never set out to create a cuddly creature. Their objective: to redesign the popular, three-year-old Classic at the same time as it was getting a technology update. The new version would have a faster microprocessor, a built-in microphone, speakers, a bigger screen, and a rear door for easy access to circuit boards.

The question then became: Keep the Classic's well-known look or go for a makeover? The answer: Go for the make-

over. "We were terrified," says Brunner, who joined Apple in January, 1990—ten months before the original Classic made its appearance. "The Classic was such an icon. To mess with it was terrifying."

It was also exhilarating. Brunner's 19-person design team was trying to put into words the new Apple look—animated and lively. Hunched over cups of espresso and cappuccino, they tried to describe what they could easily visualize. Then it hit them: Espresso was a good metaphor to express the energy and vitality they wanted the product to have. With that in mind, they launched into designing the Color Classic.

One of their design goals was that the computer's features should give some indication of what they're for. The design should speak to the computer user—as the designer would say. The microphone that you speak into, for example, is dented inward. The stereo speaker, where sound emerges, is curved outward. The air vents, where air flows away from you, are slanted away like fish gills.

Combine such techniques, along with the new curves and rounded look of the Color Classic, and you have a design hit. Says IDEA juror Lou Lenzi, manager of industrial design at Thomson Consumer Electronics: "The designers enhanced an existing product line, one of the most challenging design problems facing a mature business. They went beyond the easy answer—a superficial surface solution—with the right mix of user-sensitive features, clever design details, and a fresh aesthetic."

Or, in Apple-speak, they went espresso.

By Kathy Rebello in Cupertino, California



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BACK-OFFICE WORKBUSTER

**7880 WORKSTATION
DESIGNER: NCR CORP.**

Great design is all too often associated with successful consumer products, from a sleek Braun coffee maker to the "aero-shaped" Ford Taurus. These are products people enjoy using in their daily lives. But what about at work? NCR Corp. has won a prize for a machine that most people will never see. The company, a unit of American Telephone & Telegraph Corp., designed its 7880 Workstation to make things easier and more pleasant for employees doing one of the most thankless of routine jobs: "back-office" sorting of checks, remittance slips, and other items.

In most banks, the sorting of checks is a high-pressure, assembly-line type of job done in basements full of noisy machines. They frequently jam and require constant attention. A year and a half in the making, the 7880 does the job more quietly by replacing as many as 20 conventional sorters and other machines. It is designed to be easier to operate and maintain than competing models, too. "Our mandate was to improve the quality of working life" at banks and other institutions, explains Vern

Tarbutt, an industrial designer at NCR's Imaging Systems Div. in Waterloo, Ont.

The 7880's job is to process stacks of checks, remittance slips, and other paper items. Once its hopper is loaded, it scans the pieces of paper electronically. Built-in computer circuitry reads numbers on each item and prints other information on them in magnetic ink. It then sorts the checks or remittance slips into as many as 40 bins. Images of items that can't be read are sent to remote terminals for manual coding.

A primary goal of NCR's design group was to make the operation of its check-processor as intuitive, as easy to use without referring to manuals,

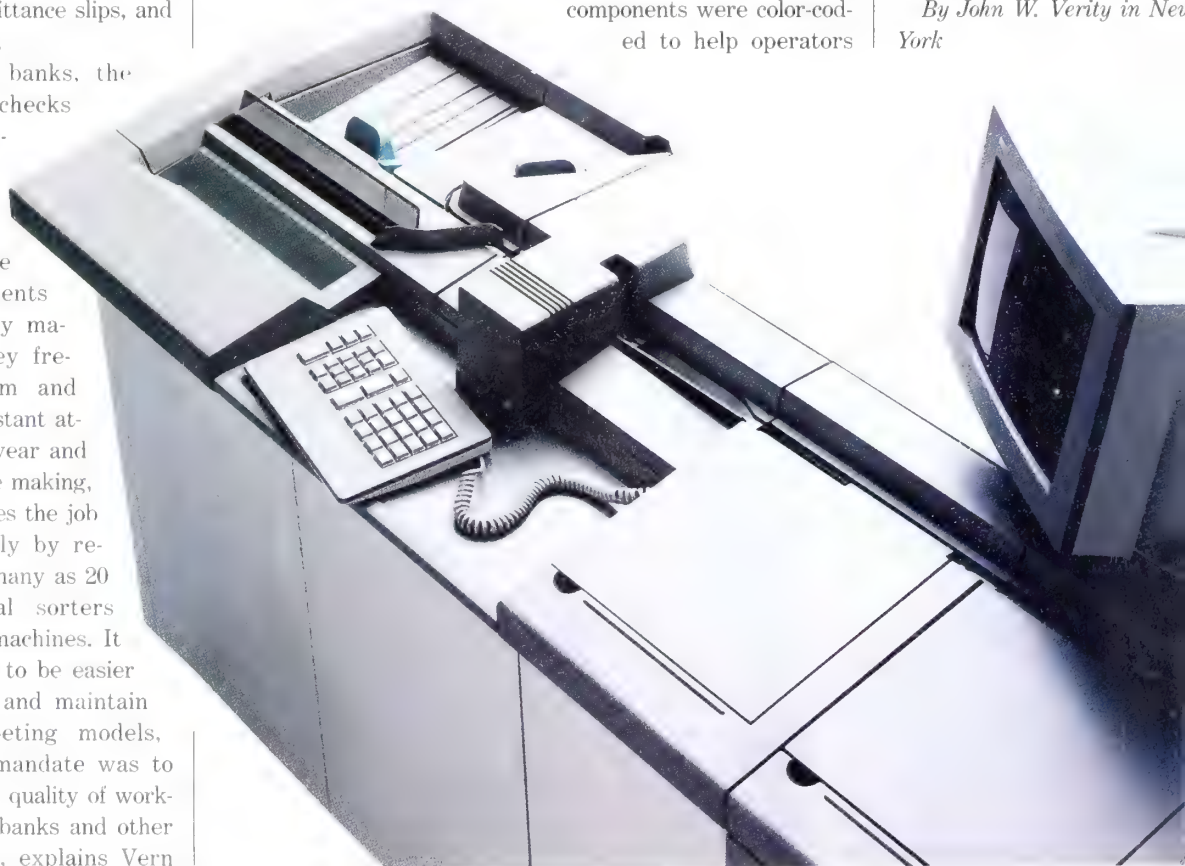
as possible. Early on, test subjects were videotaped using mock-ups of particular pieces of the machine. That helped NCR modify its final design so that it takes only a quick glance for a worker to grasp its workings. The entry areas for documents, for instance, are designed to suggest the best hand motions and the direction that documents will travel. Overall, the system is controlled by means of graphical software on a video-display screen. Controlling the machine is an IBM-compatible personal computer.

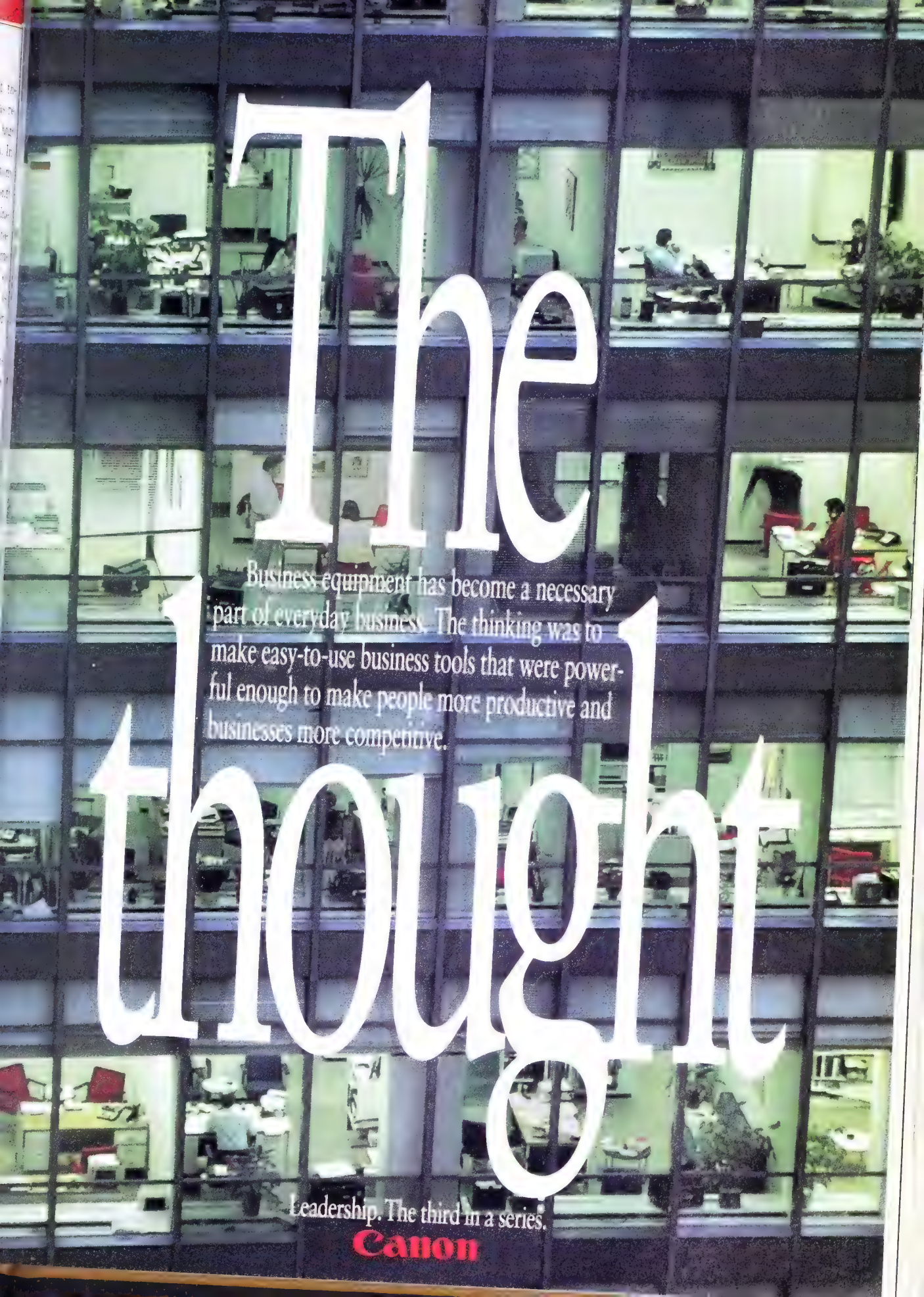
Special attention was paid to aesthetics, too, to give the 7880 a touch of elegance not usually found in banking machines. Important components were color-coded to help operators

run the machine, but the use of accent colors was restrained to maintain a high degree of sophistication. Indeed, Tarbutt says customers have expressed confidence in the machine at least partly because they assume that the level of outside detailing is reflected in its internal mechanics.

Finally, the system was designed for comfortable use by a wide range of people, from small women to large men. It has built-in storage and writing surfaces and a movable keyboard. And unlike some other banking machines, no particularly demanding physical tasks are required of the operator. What more could you ask for in a check-sorter?

By John W. Verity in New York





The thought

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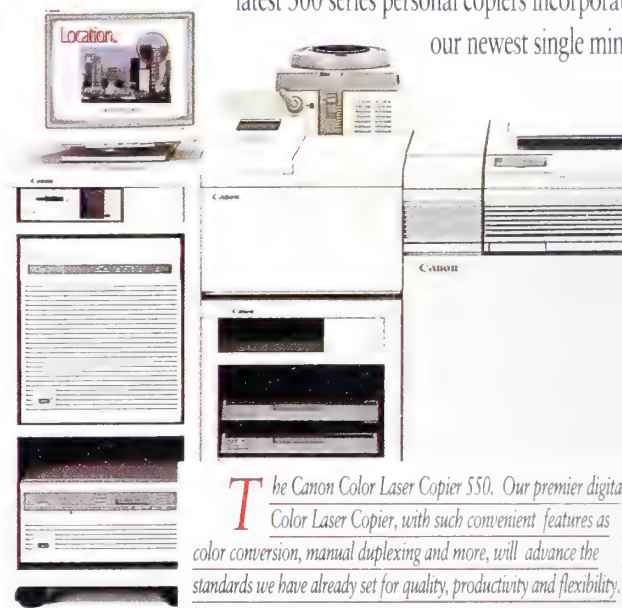
To ensure The Corporate Line copiers stay up and running, we utilize our patented Amorphous Silicon Drum. This Canon innovation can last more than twice as long as conventional drums, based on copy volume, so scheduled maintenance goes down. And since productivity is as important as reliability, The Corporate Line has incredibly fast first copy speeds so short runs are more efficient, and offers the industry's largest paper capacities, so users will spend less time copying and more time working. You'll find all these innovations in The Corporate Line, featuring the NP 6060 and the NP 9800. We're committed to making The Corporate Line the best high-volume copiers on the market. And it's breakthroughs like these which have helped make Canon copiers the number one choice for the last eleven years.

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Smoothing enhances your incoming faxes, so even poor quality images are improved. All of these features can be found in our latest Canon FAX-L775. It produces among the highest fax

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Canon

'WHAT A JOY TO HOLD'

**PALM-MATE
DESIGNER: PATTON
DESIGN**

It's the ultimate toy for couch potatoes—a remote control that rests comfortably in the palm of the hand, with a depression on top for your thumb. Once there, the thumb knows instinctively what to do: Rock the button forward and back, left or right, to control volume and channel. If you're using a VCR, the button directs play, stop, fast-forward, and reverse.

Go-Video Inc. knew it needed a second control for its VCRs. The Scottsdale (Ariz.) company already includes a full-function remote control with each VCR. But since it sells only dual-deck VCRs, that remote must handle all of the functions for each deck, plus additional features such as copy and edit. But 90% of the time, customers simply watch rental tapes. For those occasions, Go-Video figured folks wanted something simple.

It was hardly prepared for what Doug Patton came up with. Patton, who runs his own design firm in Irvine, Calif., has done remotes before, and in 1990, he won an IDEA gold medal for a three-button, pen-size control for Mitsubishi Electronics. This time, he says, he wanted an even more minimal design: You shouldn't have to move your finger from button to button.

But it's the shape that stunned Go-Video and the IDEA judges. "I wasn't even thinking that a remote control could feel good in your hand," says John R. Berkheimer, chief engineer at Go-Video. "What a joy to hold," says Lou Lenzi, manager of industrial design at Thomson Consumer Electronics, who judged consumer-electronics products. "This touchy-feely approach to technology is a welcome departure from the intimidating, hard-edged, technolook of most electronic products." The rest of the jury agreed and elevated Lenzi's silver recommendation to a gold award.



Patton can't point to a single inspiration for the shape. "There are lots of sensuous forms that relate to this kind of design: rounded stones at the beach, aquatic creatures, and shells," he says. "Even a surfboard's shape is very similar." The initial models that Patton, a surfer, delivered to Go-Video, were, in fact, carved from surfboard foam.

To put the remote control, called Palm-Mate, into production, Go-Video had to make a number of changes to Patton's design. The first was to sell it as a stand-alone product—a universal remote control that could handle any brand of TV and VCR. That required three small buttons around the perimeter to switch between the different gear. In order to accommodate common AA-size batteries, Go-Video had to enlarge the elliptical shape by about 8%.

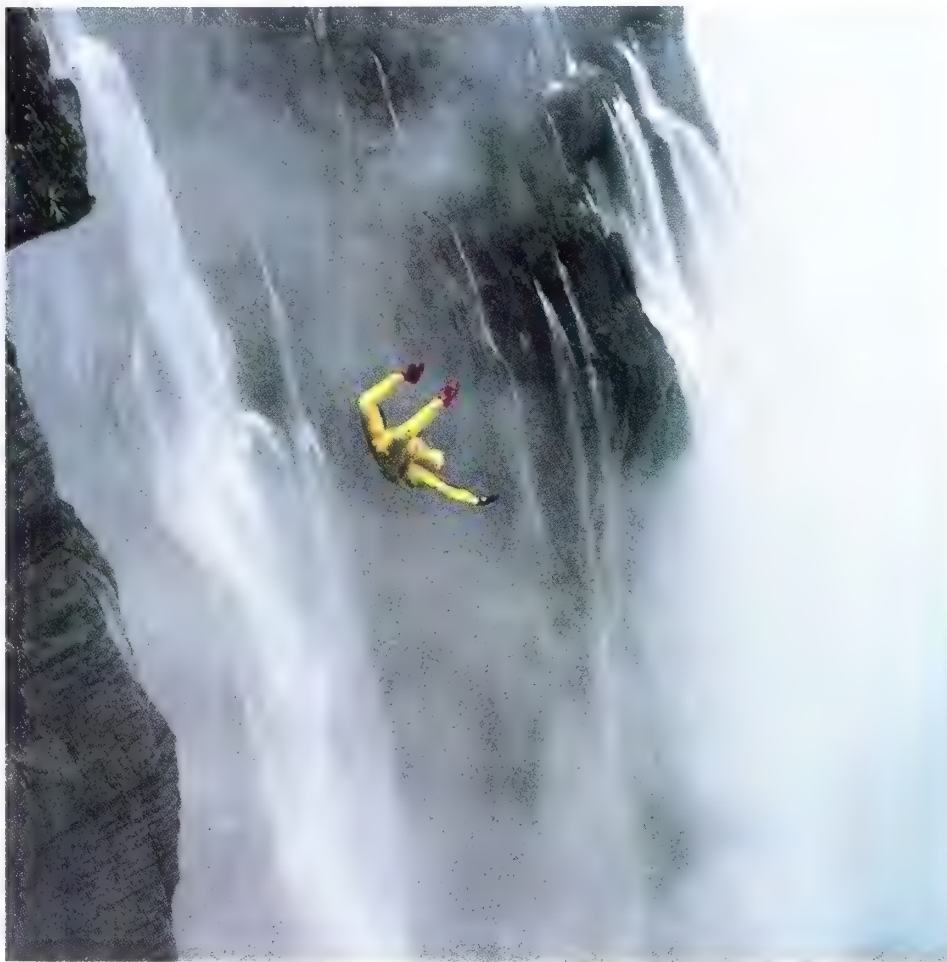
Patton had proposed a textured, rubberized surface to give Palm-Mate a stonelike look and a soft feel. But in tests, Go-Video noticed people would pick it up and play with it like a worry-stone—rubbing it for hours. "So durability became an issue, and the surface just didn't hold up," says Berkheimer. The finished product has a flat, matte surface.

Consumers love it. Even with the \$30 Palm-Mate in limited distribution, Go-Video says it can't keep up with demand. The company sold close to 10,000 in its first 45 days on the market, and in May it ran 300% over projected sales. Now it works are more colors and special versions for kids and teenagers.

By Larry Armstrong in Irvine, Calif.



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1993 IDEA WINNERS

BUSINESS & INDUSTRIAL PRODUCTS

GOLD

Deskjet Portable Printer Hewlett-Packard, Boise, Idaho, for Hewlett-Packard, Asian Peripheral Div., Republic of Singapore

3495 Tape Library Dataserver IBM, Tucson, for IBM, Armonk, N.Y.

Liveboard Palo Alto Design Group, Palo Alto, Calif., and Xerox Palo Alto Research Center (PARC), Palo Alto, Calif., for PARC

PowerBook Duo System Apple Industrial Design Group, Cupertino, Calif., Apple Portable Product Design, Cupertino, and IDEO Product Development, Palo Alto, Calif., for Apple Computer

SILVER

7780 Workstation NCR, Waterloo, Canada, and NCR, Dayton, for NCR, Dayton

IR2131 Impact Wrench Group Four Design, Avon, Conn., and Ingersoll-Rand, Athens, Pa., for Ingersoll-Rand, Liberty Corner, N.J.

CL2000 Disk Array Office Tower Data General, Westboro, Mass.

Adjustable Keyboard Apple Computer, Cupertino, Calif., and Vent Design, Campbell, Calif., for Apple Computer

Convertible Pen-Notebook Computer IDEO Product Development, Palo Alto, Calif., and GRiD Systems, Fremont, Calif., for GRiD Systems

Spectrum Analyzer ZIBA Design, Portland, Ore., and Ono Sokki Co., Ltd., Tokyo, for Ono Sokki

12" Compound Miter Saw Black & Decker, Towson, Md., for DeWalt Industrial Tool, Hempstead, Md.

BRONZE

Door Positioning Hinge Southco, Concordville, Pa., and Juliana Design Group, Exton, Pa., for Southco

System 3000 Models 3225/3230/3333 NCR, Augsburg, Germany, and NCR, Dayton, for NCR, Dayton

TestBook Hewlett-Packard, Sunnyvale, Calif.

440 Personal Communicator frogdesign team, Menlo Park, Calif., for EO

Z-System frogdesign team, Menlo Park, Calif., for Zenith Data Systems, St. Joseph, Mich.

Lightwave Integrated Network Cross-Connect System (LINXS) Telect, Liberty Lake, Wash.

ScanJet IIc Color Scanner Hewlett-Packard, Greeley, Colo.

Storage Express ZIBA Design, Portland, Ore., and Intel, Hillsboro, Ore., for Intel

Laserwriter Pro 600 & Pro 630 Lunar Design, Palo Alto, Calif., and Apple Computer, Cupertino, Calif., for Apple Computer

MAX/it Desktop Terminal SG Hauser Associates, Calabasas, Calif., and Link Technologies, Fremont, Calif., for Link Technologies

Digitizing Scanners IDEO Product Development, London, and OCE Graphics, Creteil Cedex, France, for OCE Graphics

CONSUMER PRODUCTS

GOLD

Sensor for Women Gillette Co., Boston

First Play PlayWorld Systems/PlayDesigns, New Berlin, Pa.

FM500 Motorized Stairclimber Leisure Design Associates, Chanhassen, Minn.,

and Fitness Master, Waconia, Minn., for Fitness Master

My First Sony—Electronic Sketch Pad and Animation Computer Sony Design Center, Park Ridge, N.J., for Sony, Tokyo

Softouch Scissors Fiskars, Wausau, Wis.

Macintosh Color Classic Apple Computer, Cupertino, Calif.

Thermal Electric Grill Fitch, Worthington, Ohio, and Thermos, Schaumburg, Ill., for Thermos

Palm-Mate Patton Design, Irvine, Calif., for Go Video, Scottsdale, Ariz.

SILVER

Trio Vacuum Bissell Industrial Design, Grand Rapids, and INNO, Atlanta, for Bissell Homecare Div.

Casting Reel ZIBA Design, Portland, Ore., and Fenwick, Huntington Beach, Calif., for Fenwick

Tristander Bissell Health Care, Bay Shore, N.Y., and Tumbleforms, Dolgeville, N.Y., for Bissell Health Care, Jackson, Mich.

Leaf Eater Fitch, Boston, Polymer Solutions, Worthington, Ohio, and Flowtron Outdoor Products, Melrose, Mass., for Flowtron

BRONZE

Cordless Mulching Mower Ryobi Motor Products, Anderson, S.C., and Alsip Watson Associates, Conyers, Ga., for Ryobi

Precision Toothbrush Human Factors Industrial Design, New York, Colgate, New York, for Colgate-Palmolive, New York

Cordless HandyMixer Black & Decker, Shelton, Conn.

VCR VR5802/VR5602 Design Continuum, Boston, for Samsung Electronics, Suwon City, Korea

Ultrasonic Toothbrush Design Continuum, Boston, and Sonex International, Brewster, N.Y., for Sonex

Activity Table Fisher-Price, East Aurora, N.Y.

DESIGN EXPLORATIONS

GOLD

Retractable Wall Cord Steiner Design, Greenwich, Conn.

Single-Burner Portable Cooker INNO Design, Sunnyvale, Calif., for Tong Yang Magic, Seoul, Korea

Metaform Personal Hygiene System Design Continuum, Boston, for Herman Miller Research, Ann Arbor, Mich.

Highlander Concept Vehicle GM Design Center, Warren, Mich., for Chevrolet Motor Div., Warren

Leapfrog Richard Sapper, Milan, Italy, and IBM, Stamford, Conn., for IBM, Armonk, N.Y.

"Anthropometron" Anthropometric Measuring System Walter Dorwin Teague Associates, Redmond, Wash., and Boeing PHI Group, Seattle, for Boeing Commercial Airplane Group, Seattle

SILVER

IMPRAlert ZIBA Design, Portland, Ore., and Impr, Tempe, Ariz., for Impr

One Piece Fishing Pliers Steve Visser, Miro Tasic, and Ashok Midha, West Lafayette, Ind.

BRONZE

E2 Designworks/USA, Newbury Park, Calif., for BMW Technik, Munich

Monet Klitsner Industrial Design, San Francisco, for Memtek, Fort Worth

Big Saw Frank Sterpka, West Hartford, Conn.

Endoscope SG Hauser Associates, Calabasas, Calif.

ENVIRONMENTAL DESIGNS

GOLD

Edge Lit Exit Sign Designspring, Westport, Conn., Scientific Prototype, New York, and Autronic Plastics, Westbury, N.Y., for At-Lite Lighting Equipment, Maspeth, N.Y.

Birmingham Civil Rights Institute Exhibit Joseph A. Wetzel Associates, Boston, for City of Birmingham, Ala.

SILVER

Origins Retail Stores Program Peter Forbes & Associates, Boston, for ORIGINS Natural Resources, New York

Furniture Showroom STUDIOS Architecture, Paris, and Limited Productions, Petaluma, Calif., for The Knoll Group, New York

"The Power of Maps" Exhibition Pentagram Design, New York, for Cooper-Hewitt Museum, New York

BRONZE

SignTrack™ APCO, Atlanta

Display at Orgatec STUDIOS Architecture, Paris, and 3R, Oberursel, Germany, for The Knoll Group, New York

FURNITURE

GOLD

Tutor Training Table System Niels Diefrient, Ridgefield, Conn., Design & Development, Pennsburg, Pa., and Howe Furniture, Norwalk, Conn., for Howe Furniture, Trumbull, Conn.

Genesis Softside Easyturn American Tourister Design Staff, Warren, R.I., and Joy Tong, New York, for American Tourister, Warren, R.I.

Silhouette Window Shadings Hunter Douglas, Broomfield, Colo., Barbara Schirmeister, for Hunter Douglas Window Fashions, Broomfield

SILVER

Orion AW Photography Backpack Resource International, San Ysidro, Calif., for Lowe Pro International, Scarborough, Ont.

Open Office Enclosure Family Digital Equipment, Maynard, Mass.

BRONZE

Quantum Samsonite, Denver, and DANA CO, Denver, for Samsonite

Playback Ricchio Design, Seal Beach, Calif., for Atelier International, Long Island City, N.Y.

DAL Fixtures frogdesign team, Menlo Park, Calif., for DAL, Germany

Computer Accessory Product Range IDEO Product Development, San Francisco, and Details, New York, for Details

MEDICAL & SCIENTIFIC

GOLD

670 Perimeter Product Insight, Acton, Mass., and Thornton Design, Concord, Mass., for Tomey Technology, Cambridge, Mass.

LAISer II SG Hauser Associates, Calabasas, Calif., and LAIS, Irvine, Calif., for LAIS Advanced Interventional Systems, Irvine

Biojector ZIBA Design, Portland, Ore., and Bioject, Portland, Ore., for Bioject

SILVER

Lens Analyzer 350 SOMA, Portland, Ore., for Humphrey Instruments, Seal Leandro, Calif.

Accumet pH Meter ZIBA Design, Portland, Ore., and Denver Instrument, Vada, Colo., for Denver Instrument

BRONZE

Family CPR Trainer Laerdal California Long Beach, Calif., and Laerdal Medical Stavanger, Norway, for Laerdal California

Anatomy Immersion Dissecting Table McBrayer Industrial Design, New Braunfels, Tex., and KLN Steel Products, San Antonio, for KLN Steel Products

Insyte Saf-T-Cath Becton Dickinson, Sandy, Utah

DNA Sequencer Lunar Design, Palo Alto, Calif., for Li-Cor, Lincoln, Neb.

PACKAGING & GRAPHICS

GOLD

Pill Dispenser Package ZIBA Design, Portland, Ore., for Alnamar, Beaverton, Ore.

SILVER

GT Series Automotive Loudspeaker Amplifier Packaging Ashcraft Design, Los Angeles, for JBL Consumer Products, Woodbury, N.Y.

TRANSPORTATION

GOLD

LH Midsize Models: Dodge Intrepid, Dodge Vision, and Chrysler Concorde Chrysler, Detroit

Northstar V-8 Engine GM Design Center, Warren, Mich., for Cadillac Motor Car Div., Detroit

SILVER

Quest Nissan Design International, San Diego, for Nissan Motor, Tokyo, and Ford Motor, Dearborn, Mich.

777 Flight Deck Boeing, Everett, Wash., and Daedalus, Issaquah, Wash., for Boeing, Seattle

BRONZE

Probe GT Ford Motor, Dearborn, Mich.

STUDENT DESIGNS

GOLD

imagerING Jane Saks-Cohan of Pratt Institute, Brooklyn, N.Y.

Peak 10 Campstove Brett Ritter of California State University, Long Beach, Calif.

SILVER

Future Generation ATM Robert Fitzpatrick of Center for Creative Studies, Detroit, sponsored by NCR, Dayton

Spinal Cord Injury Patient Prone Cart Todd Hoehn and Robert Meurer of Milwaukee Institute of Art & Design, Milwaukee, for CJ Zablocki VA Medical Center, Milwaukee

Orbit Lawnmower Daniel R. Vehse of Art Center College of Design, Pasadena, Calif., sponsored by Honda Power Equipment, Torrance, Calif.

BRONZE

Cruiser/Commuter Al Arrosagaray of Art Center College of Design, Pasadena, Calif.

Versajet Water Jet Cutting System Blasingame of Auburn University, Auburn, Ala.

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THE NETWORK IS THE COMPUTER[™]

IS CHRIS STEFFEN TOO TOUGH FOR HIS OWN GOOD?

Now at Citicorp after leaving Kodak, the strong-willed executive seems to have trouble fitting in

When Citicorp Chairman John S. Reed went looking for a tough-minded outsider to help him fix the troubled banking giant, Christopher J. Steffen seemed a natural. Never mind that in April, Steffen had abruptly left his job as chief financial officer of Eastman Kodak Co. after only 11 weeks. His blowup with Kodak Chairman Kay R. Whitmore was easily explained: Kodak's inbred, cautious culture couldn't tolerate a hard-charging turnaround specialist who was willing to wield the hatchet.

That was the story on Wall Street, anyway. Investors bid up Kodak's market value by \$2 billion when Steffen arrived, only to take much of it away when he left. But an in-depth review of Steffen's hopscotching career across nine companies suggests that the 51-year-old executive has had persistent problems fitting in. And at a time when boards are increasingly turning to outsiders for help, Steffen's story underlines a simple fact: Personalities matter. "There's a fine line between finding outsiders who are different but not too different," says management guru David A. Nadler.

LONE WOLF. Wherever Chris Steffen has worked, the burly, deep-voiced executive has garnered raves for his intellect and keen financial skills. He is a master at squeezing profits from disparate assets and a voracious cost-cutter. While his methods are brutally effective, critics charge that his take-no-prisoners style relies too heavily on numbers. And his driving ambition has led to a history of clashes with colleagues—a curriculum vitae of discord that suggests his sudden departure from Kodak should not have been so surprising. "Chris always thinks he's right," says a former Chrysler Corp. executive. "It's a level of self-confidence that can get him into trouble."

BUSINESS WEEK also has discovered that the Kodak blowup echoes an abortive stint at a suburban Chicago company 12 years ago—a position Steffen leaves off his official resumé. In January, 1981, a 38-year-old Steffen became CFO of a fast-growing steel-services company

called Allied Tube & Conduit Corp. He left in March after 11 weeks. Chairman Theodore H. Kregel, who since has sold his company, says the two clashed when his new CFO began making changes without consultation and peppering board meetings with ideas he hadn't broached with his boss. When Kregel read of Steffen's Kodak troubles, he wasn't surprised. "The guy did the same thing to me," Kregel says. "He's the worst team player I've ever seen."

In his first interview since leaving Kodak, Steffen says he did work for Allied Tube—but mostly as a consultant. (Allied records show he was a full employee.) Steffen insists there was "absolutely no problem" between him and Kregel, noting that the story Kregel

tells "is not how I remember it, but getting on in years." As for the gap in his resumé, Steffen says he has also done part-time consulting and teaching jobs. "I don't have anything to hide. I have done pretty much what I represented in my resumé."

Even leaving Allied out of the equation, Steffen's background raises plenty of questions for John Reed and Citicorp. Chief among them is whether he has the kind of culture that can accommodate Steffen's abrasive style. At Kodak and Honeywell Inc., where Steffen was CFO from 1989 to late 1992, the tense executive created friction in collegial environments built on consensus. At Honeywell, at least, several board members say Steffen's perceived lack

STEFFEN'S CORPORATE WANDERINGS

EASTMAN KODAK
(Feb.–Apr., 1993)

Hired amid great fanfare as CFO. Clashed with CEO Kay Whitmore and left after 11 weeks.

HONEYWELL
(1989–1993)

As CFO, helped forge widely admired turnaround plan but didn't get along with several colleagues. Wanted to replace Jim Renier as CEO, but some board members believed people skills were lacking.

CHRYSLER
(1981–1989)

As controller, Steffen oversaw many cost-cutting efforts. Said to be a wizard at squeezing cash out of inventory. Relationship with CFO Steve Miller somewhat rocky.

ALLIED TUBE & CONDUIT
(Jan.–Mar., 1981)

Hired as CFO of this private steel-coating firm (now part of Tyco Laboratories), but quarreled with founder Ted Kregel and left after 11 weeks.

HYATT
(Apr.–Dec., 1980)

As senior vice-president for finance, well regarded for financial acumen. Devised imaginative way to track profits from hotel management contracts.

EARLY CAREER

Controller for IC Industries (now Whitman), and for Price Waterhouse, various other financial positions. Mathematics degree from University of Michigan in 1964. MBA from Wayne State University in 1967.

people skills" cost him a shot at CEO. Chrysler was different. As controller from 1981 to 1989, Steffen had his clash. But he was a better fit within the to maker's rough-and-tumble culture. **PKIN PLAN.** A Detroit native, Steffen began his climb up the corporate ladder armed with a math degree from the University of Michigan and an MBA from Wayne State University. His financial skill and imagination emerged early. But he did his ambition. Several headhunters knew he was well-known within their community as an executive willing to move. He recalls having as many as 20 phone conversations with him. Within one 12-month period straddling 1980 and 1981, Steffen changed jobs three times. He jumped from IC Industries (now Whittman) to Hyatt to Allied before finally landing the controller's job at Chrysler. When he arrived, Chrysler was in the throes of restructuring after its dramatic government bailout. Steffen went right to work. "He was the best guy in the world at bringing cash out of the balance sheet," says Frederick W. Zuckerman, former Chrysler financial executive who is now treasurer at RJR Nabisco. Steffen was part of the inner circle at Chrysler that made life-or-death de-

cisions about its future. Meetings often were intense, as executives heatedly hashed out plans. Some remember that Steffen would argue more strenuously than most—and didn't take it well when his views weren't accepted.

That attitude created friction with then-CFO Robert S. "Steve" Miller Jr. "Chris's ego started getting bigger," recalls another former high-level executive. "He thought he was better qualified to be CFO than Steve." Insiders say Miller, in turn, thought Steffen lacked an understanding of how the numbers interacted with the auto maker's business. The conflict never amounted to much, since Chrysler's culture tolerated disagreement among its strong-willed executives. "That was life in the boardroom at Chrysler," recalls one of them. "Iacocca was there to referee.

When he made a decision, the arguing stopped."

Unable to move up at Chrysler after eight years, Steffen moved out—to Honeywell. Coming off a big 1988 loss and rumored to be a takeover target, the Minneapolis-based compa-

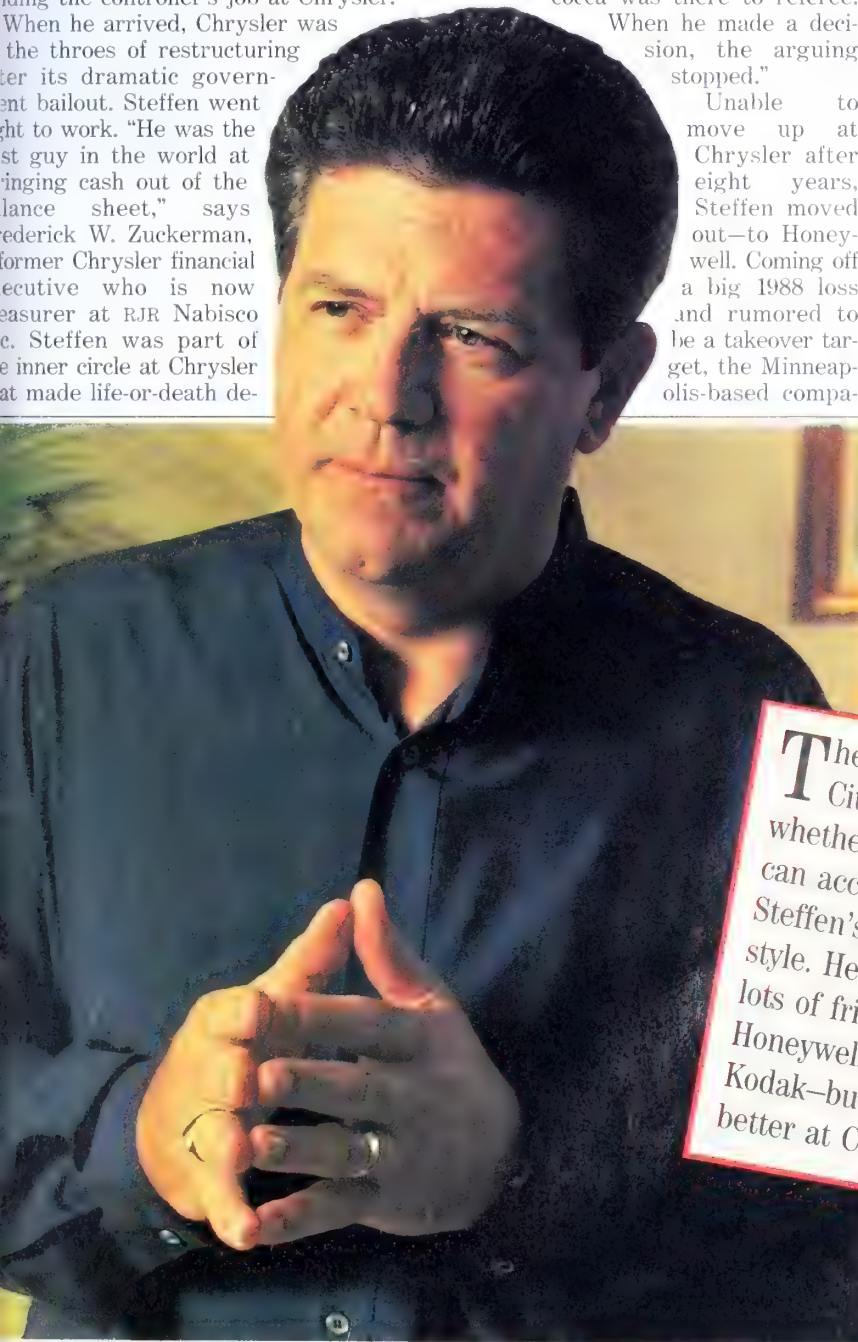
ny was floundering. Executives had started planning a turnaround strategy by the time Steffen arrived as CFO in 1989. He helped distill the ideas into a simple, five-point plan that he sketched out on two restaurant napkins one night. Steffen later framed the napkins and hung them in his conference room, where they became a focus of resentment among colleagues who felt he was grabbing credit for a team effort. "For Chris to say it was his plan is stretching the point a bit," says Honeywell corporate planner Lawrence W. Stranghoener. "He wasn't a savior in and of himself."

"ISOLATED." While Steffen won plaudits on Wall Street as the turnaround plan unfolded, some Honeywell executives grouched that he was acting like a cowboy. Rather than wait for a consensus to develop within Honeywell, they claim, Steffen would announce his ideas to investors and use the pressure generated to nudge internal compliance. Others applauded the strategy as a means to shake Honeywell from its torpor. Another common complaint is that Steffen didn't take time to understand Honeywell's complex operations. One manager says Steffen never even visited the Honeywell operations based near Minneapolis headquarters. "He approached things almost exclusively from a financial standpoint," says the executive. Echoes an outside director: "You have to know something about the rest of the company. He didn't. And if you don't, you have to show an interest in learning."

The discord between Steffen and Honeywell's two top operational executives became so acute in 1991 that then-Chairman James J. Renier tapped an outside "teamwork" consultant to help repair ties. John L. Brekke, the consultant, says the tension at Honeywell was no worse than he had seen at some other companies. Still, he adds, "Chris had a difficult time understanding what it

meant to be a Honeyweller. It's a very caring organization. At times, he felt himself isolated."

Steffen won't comment on his years at Honeywell except to say: "You never leave a place where somebody doesn't say something." And certainly, a degree of antagonism is understandable: Steffen was a tough outsider brought in to shake up a sleepy company. He engineered the firing of thousands and the sale of a major division. "Perhaps Chris was a lightning rod for criticism from people within Honeywell who didn't like the



The key issue at Citicorp is whether its culture can accommodate Steffen's abrasive style. He created lots of friction at Honeywell and Kodak—but fared better at Chrysler

steps we took," says Renier, who remains a fan. "Chris was a good CFO."

Personality conflicts—and his lack of operational experience—however, helped scuttle Steffen's ambition to succeed Renier. "When Chris arrived, there were absolutely no preconceived notions that he couldn't be CEO," says a director. But when it came time to choose, "there was no real consideration of him," the director says. "He's a very talented person, but he's got to learn that a company is not a gigantic machine. He has to be able to deal with people."

TREPIDATION. Kodak's Whitmore won't comment on how closely he looked at Steffen's background when he hired him as CFO. But he has said he wanted a tough guy. Like Honeywell, Kodak had been floundering for years. Three ineffectual restructurings, from 1985 to 1991, hadn't helped.

Even before he started work in Rochester, N.Y., though, Steffen was using Wall Street to guide the internal Kodak debate. In an interview with *BUSINESS WEEK* soon after his appointment, he said Kodak should lower its ratio of debt to total capital from 59% to between 30% and 40%. It was a figure Kodak hadn't publicly embraced before, and it committed the company to selling off a major division. Then Steffen turned up the heat again when he promised investors a turnaround plan would emerge within six months.

Many on Wall Street began viewing the plan as Steffen's—an impression he did everything to encourage. And Kodak executives became sensitive that Steffen's public posture was usurping Whitmore's role. When *BUSINESS WEEK* wanted to interview Steffen for a profile in February, Kodak's public-relations department requested the article make clear that Whitmore hired Steffen—and was driving the turnaround plan.

At Citi, Steffen's arrival is being greeted with some trepidation. As a senior executive vice-president, he will take charge of internal operations, controls, and productivity programs at the bank. Some fear more cutbacks at a company that has already chopped roughly 17,000 jobs, or 20% of the work force, since late 1990. "Aren't we past the major cost-cutting?" asks one Citicorp veteran. "This has obviously increased the anxiety," says another.

As one of Citi's top six executives, Steffen will find himself in an intensely political environment perhaps more akin to Chrysler's than Kodak's. Sources say top executives aren't afraid to slug it out among themselves. "He's not going to come into a real friendly atmosphere. I'll tell you that," says one insider. But that's not likely to bother a guy like Chris Steffen.

By Mark Maremont in Boston

Marketing

FAST FOOD



TWO-PRONGED ATTACK: PEPSICO FOODS ARE BEHIND THE COUNTERS AND ON THE SHELVES

DETERGENTS, AISLE 2. PIZZA HUT, AISLE 5

Soon, wherever there are eaters, Pepsi will be hawking fast food

If the cola business has a Holy Grail, it's shelf space. For decades, the industry giants have tried to beat competitors by squeezing them out of supermarket aisles. Now, PepsiCo Inc. is on the same quest in fast food. Its wholly owned fast-food restaurant chains—Pizza Hut, Taco Bell, and KFC—are already visible on many street corners in America. Next, the Purchase (N.Y.) cola giant wants virtually every American whose stomach growls to be within easy reach of a meal made by PepsiCo—whether there's a restaurant around or not. "It is really the mentality of the soft-drink

business: Be ubiquitous in distribution," says Ronald N. Paul, president of Chicago-based food-industry consulting firm Technomic Inc.

That's why travelers at Minneapolis International Airport's Gate 5 see both Pizza Hut and a Taco Bell. Food shoppers at the Gooding's supermarket in Orlando can stop at a take-out counter selling all three PepsiCo brands. In some supermarkets, customers can even find fast food down to eat before heading for the produce aisle.

PepsiCo has little choice but to chase fast food customers in new places. A g

SLOW GROWTH IN RESTAURANTS...

**SAME-STORE SALES GROWTH AT DOMESTIC
COMPANY-OWNED OUTLETS, PERCENT**



...HAS PEPSICO TRYING NEW TACTICS

- Pizza Hut and Taco Bell use carts to bring their products directly to customers
- The chains experiment with double drive-throughs, to feed more motorists
- All three put outlets in supermarkets to draw hungry shoppers
- Taco Bell launches a line of taco shells and beans in supermarkets

DATA: COMPANY REPORTS, PRUDENTIAL SECURITIES INC.

fast-food joints across America has taken its toll, shrinking industry sales growth to 5% annually from double digits in its mid-1980s heyday. To speed up growing growth in its \$8.2 billion fast-food operation, PepsiCo must branch out beyond the 22,000-plus restaurants that fly its flags worldwide (chart). The push is especially urgent now that some fizz has gone out of the core soda unit, where growth is less than half of what it was in 1989.

Bringing fast food where consumers live, work, and play is hardly new. McDonald's Corp. has been serving up Big Macs in hospitals and at highway rest stops for years, and Little Caesars has 10 kiosks in Kmart's across the country. But if PepsiCo has come late to the party, no one has arrived with more energy. In fact, competitors that don't respond to the relentless spread of its brand names may find themselves squeezed out of consumers' minds.

Today, Pizza Hut and Taco Bell combined have over 650 so-called unconventional sites, compared with about 200 for McDonald's and 96 for Burger King Corp. Even KFC's management, which for two years has been preoccupied with overhauling the chain's menu, is sending the Colonel out from his red-and-white-striped home. If you can't get away for a fix of Hot Wings, a home-delivery system being tested in 65 KFC outlets lets you soothe your craving without leaving your Barcalounger.

In another assault on stay-at-home diners, Taco Bell Corp. is testing a line of taco shells, salsa, and refried beans in 1,000 supermarkets in the South and Midwest. Trend-watchers say that's a wise decision, given the changing eating habits of cocooning baby boomers. "The market for home-prepared meals is bigger than the restaurant business will ever be," says Harry Balzer, vice-president of market researcher NPD Group, based in Port Washington, N.Y.

WAGON TRAIN. But PepsiCo isn't abandoning its take-out customers. Taco Bell has put 20 supermarket outlets in places such as Phoenix and Baltimore, and in several cities, two or more PepsiCo food outlets sell side by side in supermarkets. Those in-store counters raise a potential conflict: PepsiCo is competing with supermarket delis, whose profitable sales of take-home food grew 12% last year. And PepsiCo needs the goodwill of the supermarkets to get the best display for its beverages. But Kroger Co. spokesman Paul A. Bernish says that the extra traffic lured in by PepsiCo's foods, plus the cut supermarkets will get from fast-food sales, will offset any cannibalization.

Despite its push into supermarkets, PepsiCo knows a lot of fast-food lovers are still out on the road. So, two years

ago, Taco Bell acquired Hot 'n Now, a hamburger chain based in Kalamazoo, Mich., that operated double drive-throughs. Now, all three PepsiCo chains are testing double drive-through units that can speedily serve two cars at once.

Not content to wait for customers to drive in, PepsiCo is rolling after them. In early 1992, the company bought an equity stake in Carts of Colorado Inc., a Denver-based leader in designing food carts. Taco Bell has already used tortilla-laden carts to invade Mexico by rolling them into KFC's south of the border, so chicken addicts can try Americanized Mexican. Taco Bell has also brought its movable feast to stadiums and county fairs, while Pizza Hut will send wagons on experimental trips in mid-June.

PepsiCo's strategy is not risk-free. Extending Taco Bell's reach has already put the chain in conflict with some of its

franchisees, who complain that new company-owned outlets and wagons, as well as the Hot 'n Now acquisition, are eating into their territories. A worse problem could develop if, in its rush to expand, PepsiCo were to lose control of quality.

SIMPLER PICKINGS. Just in case PepsiCo's fast-food blitz meets serious resistance, the company is also looking up-scale. On May 18, Taco Bell announced that it was buying Chevys, a Mexican casual-dining chain, following PepsiCo's purchase last year of a majority stake in the trendy California Pizza Kitchen Inc. chain (box).

Such additions, of course, also give PepsiCo new places to peddle its beverages. The company decided long ago that to win the cola wars, you make the battlefield bigger. Now, to win the fast-food wars, it's doing the same thing.

By Amy Barrett in Los Angeles

PEPSI IS GOING AFTER THE UPPER CRUST

Think designer pizza and junk food don't mix? Think again. PepsiCo Inc. broke into the full-service restaurant business last year with the help of two left-coast entrepreneurs whose idea of a good meal is Peking Duck on a wholesome dough crust. Now they wash it down with Pepsi.

Larry Flax and Rick Rosenfield, two



ROSENFIELD AND FLAX: CALIFORNIA PIZZA KITCHEN RACKED UP \$60 MILLION IN SALES IN 1992

lawyers-turned-restauranters, created California Pizza Kitchen Inc. in 1985, after each had a typical midlife career crisis. Both loved to cook, and both noticed that in West Los Angeles there didn't seem to be too many choices in dining between upscale and downscale.

POPULAR RECIPE. That middle market is robust: In 1992, casual chains grew twice as fast as the U.S. fast-food industry. Flax and Rosenfield enjoyed the ride, dishing up single-serving pies such as Caribbean Shrimp Pizza for

less than \$10. Diners seem to like their recipe. With \$60 million in sales last year, California Pizza now operates 32 restaurants.

PepsiCo liked the recipe, too. Last spring, just as CPK was about to go public, PepsiCo offered \$96 million for 67% of the chain. Flax and Rosenfield got nearly \$20 million apiece and kept 50% voting control. For PepsiCo, CPK is partly a growth vehicle. The chain is adding 20 new restaurants this year and expects to open more than 25 locations in 1994. But it's also a classroom: Taco Bell's President and CEO John E. Martin, along with Executive Vice-President Kenneth T. Stevens, make up the PepsiCo half of CPK's board.

They're learning fast. PepsiCo last month made its second move into full-service restaurants by buying Chevys, a \$95 million Mexican-food chain with 37 outlets, mostly in Northern California. Martin thinks Chevys can reach \$1 billion in sales and 300 restaurants in just five years. Pepsi will also consider alternative formats—airport stands, campus outlets, and even supermarket products—for both Chevys and California Pizza, says Martin.

What do Flax and Rosenfield think of being part of PepsiCo's food-business blitz? Because they were picked in part for their management savvy, they say they still have autonomy. But working for a big company also sometimes gets them off the hook. Says Rosenfield: "If somebody overcooks the pasta, poor Pepsi gets the blame."

By Amy Barrett in Los Angeles

IS DEMOCRACY BAD FOR GROWTH?

It doesn't ensure prosperity—decentralization does. And even dictators can create hot economies

The time was July, 1959, and the place was the American exhibit in Moscow. Against a background of kitchen cabinets, U.S. Vice-President Richard Nixon and Soviet First Secretary Nikita Khrushchev sparred. Nixon extolled the prosperity that capitalism had brought to Americans and the freedom of choice and liberties that democracy gave them. Khrushchev retorted that socialist workers were happy and had everything they needed. Besides, he thundered, in seven years we shall surpass you.

Khrushchev was wrong. But was Nixon right? Does the American way of life ensure growth and prosperity? Is democracy the best way to achieve economic growth? In the former Soviet Union and Eastern Europe, in Latin America and Africa, even in Asia, where a few countries have yet to board the growth express, this has become one of the biggest issues of our time: What is the best political system for achieving economic growth and lasting prosperity?

The answers aren't obvious. Americans have always believed that democracy is good for growth. Two centuries of steady development fed that belief, and only the Great Depression shook the faith for a time. Since World War II, though, democracy and prosperity have seemed of a piece. Only democracy offers freedom of choice, everywhere from the polling place to the supermarket.

But that freedom of choice is hardly a prerequisite for economic growth. On the contrary, it often seems to hinder it. India has languished under democratic leadership, while Chile and South Korea, both dictatorships until recently, are success stories. Today, capitalism thrives without democracy, as the rapid growth charted by China's communist leaders amply demonstrates.

Nor does democracy ensure growth for the world's leading industrialized nations. Many are mired in recession or sluggish recovery, and democratic governments from Italy to Japan have been damaged by scandal and aren't delivering growth. Just a few years after the fall of the Berlin Wall and communism's failure in Eastern Europe, democracy's weaknesses seem glaring.

Just what is the relationship between democracy and growth? John F. Helliwell, an economist at the University of British Columbia, compared economic results for nearly 100 nations from 1960 to 1985 and concluded that there was a slight downdraft for democracies compared with nondemocracies or authoritarian regimes. His findings confirm the view that over the near term, authoritarian governments, especially those that offer citizens "economic rights" such as the protection of private property, can achieve strong results.

But while the evidence shows that democracy does not lead to growth, it makes a powerful case that growth leads to democracy. This was something that Britain's worldly philosophers of the 18th century knew in their bones. Now, as this century comes to a close, it is a pattern being played out

around the world. Growth leads to democracy for two reasons. First, as a small slice of the population is enriched, the rest of the citizens agitate for their fair shot at doing better, and such privilege is granted only in democracies. Then, too, rising incomes at first go toward needed goods and investments, then later toward more and more of what economists call "luxury goods," such as higher education. A more educated population tends to demand political and civil rights, and so democratization begins.

Perhaps the best example of this progression is South Korea, where a strong autocratic regime set growth targets and goals for industry over the past 30 years or so through a Economic Planning Board. By the mid-1980s, Korea had a strong industrial base, but there were draconian antilabor laws on the books, and labor activists were persecuted. Then, in June, 1987, uprising brought calls for democracy, and President Roh Tae Woo, who took over in 1988, started the process by guaranteeing basic labor rights and adopting sweeping reforms. Now President Kim Young Sam—freely elected in 1992—is moving quickly to weed out corruption.



DATA: DRI/MCGRAW-HILL,
ORGANIZATION FOR ECONOMIC
COOPERATION & DEVELOPMENT,
FREEDOM HOUSE, BUSINESS WEEK

authoritarian governments have accompanied economic growth through rigid controls in the center, as South Korea, Singapore, and numerous other regimes have done. But for nations such as China have decentralized the process, and rapid gains have been achieved. The example of other economically successful dictatorships strongly suggests that the push for more freedoms will intensify in the 1990s. For Russia, though, the prospects seem dimmer: Democratization has begun, but output is shrinking, ensuring that many parties will vie for fewer spoils. Only decentralization, and the federalism that boosted America's early growth, is likely to bring about both a vibrant economy and wider freedoms.

COUNTRIES WITH RISING INCOMES EVENTUALLY TURN MORE DEMOCRATIC

All governments inevitably play a role in ordering people's lives, but how they do so is critical in determining not only how free people will be but also how prosperous. For most economists, less government rather than more is preferred on the grounds that it leaves individualism unhindered and promotes economic efficiency. Few, however, take as extreme a view as Nobel laureate Milton Friedman, who has been a leading apostle of the minimalist view of government (see p. 88).

In real life, such minimalism doesn't exist, because as democracies have evolved, their role in determining economic outcomes has deepened. For the 24 members of the Organization for Economic Cooperation & Development, for instance, the public debt amounted to 63% of gross domestic product in 1992—up from 54% in 1984. For the U.S., the share was 63%—up from 45% in 1984. Total local, regional, and federal government outlays for all OECD nations shrank slightly to 28% in 1989, the latest year for which complete data is available, from a peak of 41.5% in 1983. For the U.S.,

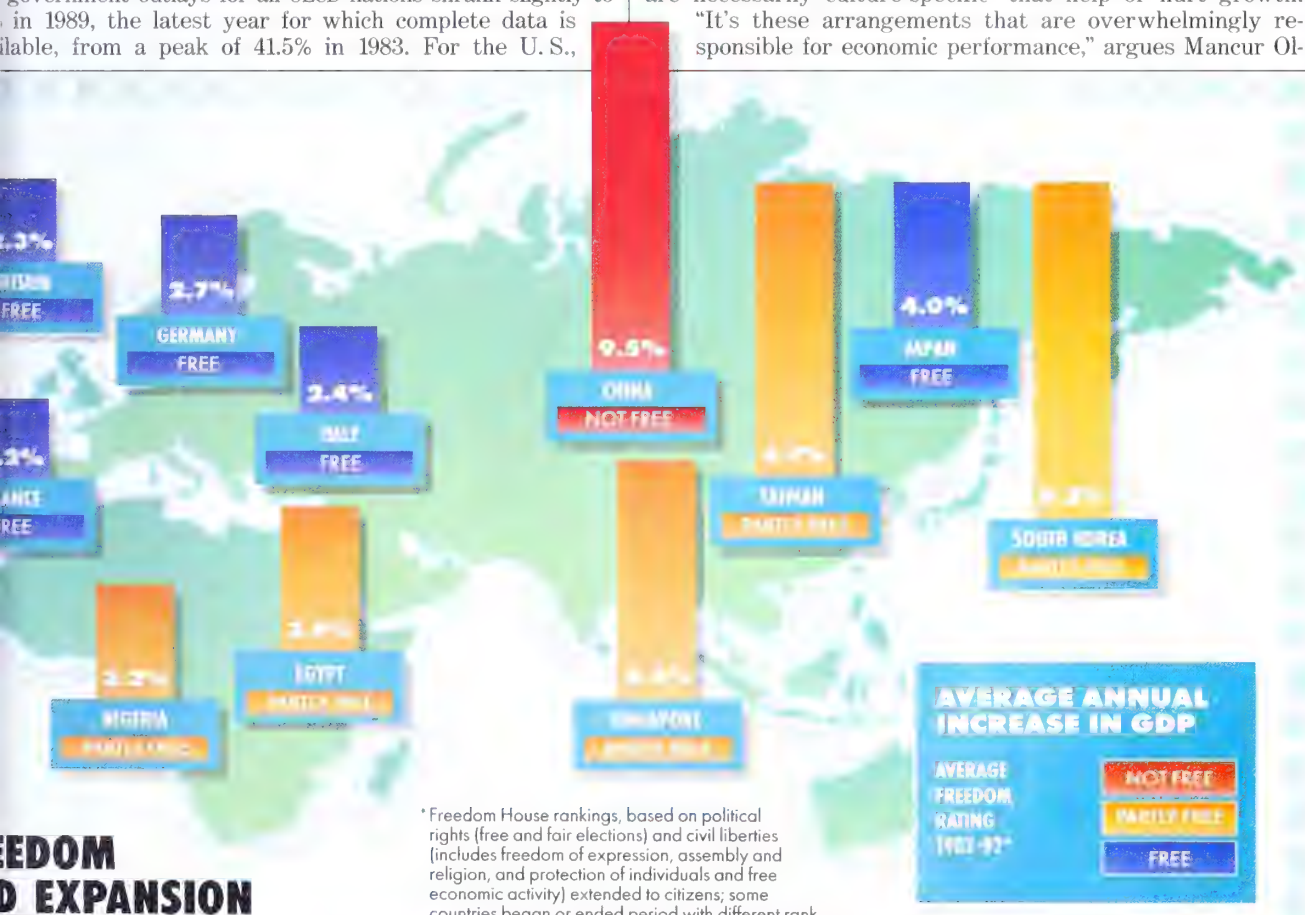
the share has been at 36% to 37% since 1983.

For years, the governments of the developed world have borrowed and spent heavily to extend more benefits to the poor, the elderly, and the infirm, to buy defense, and to employ the millions of workers at vast numbers of agencies and departments of government. The objectives were often worthy, but was the money well spent? Increasingly, both the size and the effectiveness of government is being challenged, and nowhere more so than in developing nations. The fastest-growing non-democracies have, in fact, been those countries that have overturned years of government ownership and management of business and extended numerous protections to private property owners—from sensible regulations to lower business taxes.

Take Mexico, long an authoritarian democracy in which one party dominated and rigid economic rules prevailed. After Harvard-educated Carlos Salinas de Gortari took over the presidency in 1988, he relaxed restrictions on foreign investment, privatized banks and other industries, and eased hundreds of economic controls and regulations. Incomes grew, worker productivity rose rapidly, and capital that fled the country in the early 1980s during Mexico's debt crisis returned. Mexico's example shows that function, rather than size, defines government's role in the economy.

Sometimes, culture plays a role in promoting growth, as did the rise of the Protestant faith and the Protestant work ethic in Western Europe. Similarly, the Confucian tradition in East Asia may have permitted strong leaders to exercise authoritarian rule. But today, more and more economists believe that it is politics, policies, and institutions—none of which are necessarily culture-specific—that help or hurt growth. "It's these arrangements that are overwhelmingly responsible for economic performance," argues Mancur Olson.

It's these arrangements that are overwhelmingly responsible for economic performance," argues Mancur Olson.



FREEDOM AND EXPANSION

son, an economist at the University of Maryland. In South Korea, for instance, thousands of laws explicitly designed to control economic activity may be undone, allowing businesses to make decisions independently. In developing countries, streamlined regulations and paperwork may encourage new business formation.

Similarly, burgeoning bureaucracies and interest groups in both developing and industrialized nations can throw sand in the economic gears and lead to political paralysis or instability. And political instability is one surefire predictor of poor economic performance, says Harvard University economist Alberto Alesina (table). In developing countries, the accompanying uncertainty reduces investment and encourages capital flight, while among industrialized nations, instability leads to poor policy choices. "If a government is unlikely to be reelected, it has an incentive to follow particularly shortsighted policies," argues Alesina. Italy's revolving-door governments, for instance, averaging about one per year since World War II, let the government budget deficit climb to 14% of gross domestic product. Its central bank, meanwhile, has struggled to control inflation. Italian voters, fed up with widespread scandal and corruption, recently decided to scrap the proportional representation system.

Before democracy was an idea, much less a system, despots and dictators ruled the world. Some were more benevolent than others, but by and large, these autocrats looked after their own interests first, seizing property and taxing income for tribute, ensuring impoverishment for the population at large by their larceny. Today, many such dictators continue to rule. But in recent years a new model has emerged—of an autocrat willing to forgo bounty in the near term to enhance growth prospects and future revenues.

"The puzzle of the post-cold-war era," says Harvard economist Andrei Shleifer, "is the emergence of the secure-property-rights dictator. The Pinochet example is striking."

The experiment of President Salvador Allende in socialism had bitterly divided Chile and left the economy in shambles. It wasn't until two years after the military junta, led by General Augusto Pinochet, took over that dramatic economic reforms were adopted, including the lifting of controls on foreign investment and the drastic reduction of import tariffs. Occurring against a backdrop of human-rights abuses, including killings and "disappearances," the economic shock produced other hardships: The textile industry disappeared overnight, and unemployment reached 19.6% in 1981. Eventually, labor unions started demanding political reform and the Chileans—who enjoyed a strong democratic tradition before Pinochet appeared on the scene—voted in a plebiscite to hold elections. Yet by the time democracy returned in 1990, Chileans were convinced that the economic model Pinochet had imposed

was the right one. In 1992, unemployment was down to 4% and per capita income had grown 66% in real terms since reforms began in 1975. What's more, today, Chileans have a strong measure of control over their own assets: Their social security payments, and matching payments by employers, now go into private accounts that are managed by financial companies, not the government.

The autocratic government that directs economy policy with a firm hand from the center is but one successful model for growth. An equally compelling one, and one that many believe

can coexist with democracy, is that of a federalist union, with policies, laws, and regulations allocated between the center and the regions.

Such power-sharing and decentralization of government has historically proved a powerful impetus to growth and development. Britain's Industrial Revolution occurred in the "new" cities of the north, such as Birmingham and Manchester, where laws and regulations in the wake of the Glorious Revolution of 1688 were looser than in the old financial centers, such as London. And in the U.S., rapid growth in the 19th century was spurred in part by a federalist, states-rights system that allowed agriculture and industrialization to thrive free of central control.

To be effective in promoting growth, federalism must be "market-preserving," says Barry Weingast, a senior fellow at the Hoover Institution. That is, it must limit the degree to which a political system can encroach upon markets. Under a federalist system, localities and regions evolve into "competitors," and if conditions aren't favorable, people move between regions.

What's driving rapid economic growth in China, Weingast figures, is federalism, Chinese-style. The central government doesn't enforce basic commercial standards or codes of conduct across regions, as a true federalist system would. But at the township and village level, industry has been "marketized" through an elaborate system of incentive

contracts for production and profit. In China, growth has averaged a stunning 10% annually for the past decade.

Today, Russia's Boris Yeltsin could do worse than take a lesson from the Chinese experience by pursuing decentralization aggressively. Yeltsin's power to govern Russia, a federation of regions, is severely constrained, and power is spinning away from the center. Now, Yeltsin hopes to corral those forces with his new constitution, which attempts to clarify the rights of local and regional governments (page 51).

Grigory Yavlinsky, an economist who has worked closely with the region of Nizhni Novgorod to implement economic reforms, says local governments should be able to set up their own regulations governing new enterprises, trade, and local tax proceeds should be allocated locally. Procedures should be simplified, as they have been in Nizhni Novgorod, where enter-

HOW INSTABILITY HURTS ECONOMIC PERFORMANCE

	Annual Average for 1982-92			
	Avg. inflation 82-92 (A)	Avg. unemp. 82-92 (B)	Avg. misery index (A+B)	Index of political stability*
SPAIN	7.6%	18.7%	26.3%	4
GREECE	18.0	7.6	25.6	4
PORTUGAL	14.9	6.6	21.5	4
ITALY	7.4	10.1	17.5	4
BRITAIN	5.5	9.6	15.0	2
BELGIUM	3.5	10.9	14.4	3
AUSTRALIA	6.4	7.8	14.2	2
CANADA	4.3	9.8	14.1	2
FRANCE	4.4	9.6	14.0	3
NEW ZEALAND	7.9	6.1	14.0	2
DENMARK	4.2	9.4	13.6	3
FINLAND	5.3	5.8	11.0	2
UNITED STATES	3.8	7.1	10.9	2
NETHERLANDS	1.9	8.7	10.6	3
NORWAY	5.7	3.7	9.4	2
SWEDEN	6.7	2.4	9.1	2
GERMANY	2.2	6.0	8.2	2
AUSTRIA	3.0	3.5	6.5	2
JAPAN	1.8	2.5	4.3	1
SWITZERLAND	3.1	0.9	4.0	1

*INDEX VALUE: 1 (MOST STABLE) TO 4 (LEAST STABLE), BASED ON PRESENCE OF COALITION GOVERNMENT, DICTATORSHIP, REPRESENTATION OF EXTREME POLITICAL PARTIES, AND POLITICAL CONFLICT

DATA: DRI/MCGRAW-HILL, OECD, BUSINESS WEEK, ALBERTO ALESINA, HARVARD UNIVERSITY



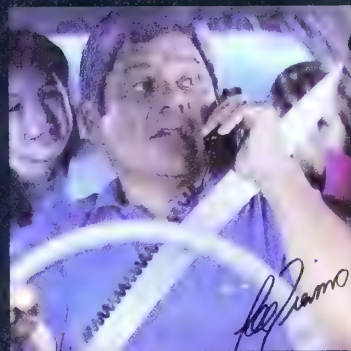
Yep. Flatter than
yesterday's root beer.

No. Everyone's fine.

In weather like this?

Sooner is better.

Ten minutes flat.
Very funny.



When you want the security
of a cellular phone, you need
the quality of a Motorola.



MOTOROLA

preneurs may now register a new business at the post office.

Federalism may even be getting a new lease on life in mature democracies, where government's role in promoting economic growth is coming under increasing scrutiny. The U.S. has become far less federalist since the early years of its development, and now some experts are arguing in favor of allowing more and more economic decision-making to percolate up from the grass roots. That way, local problems can be solved closer to their source. Economist Alice M. Rivlin, now Clinton's deputy budget director, has urged a move to a form of federalism in the allocation of tax revenues, by having the federal government let more spending powers devolve to the states. And in Italy, the Lombard League, which has gained increasing popular support by appealing to discontent over massive income transfers from the prosperous north to the poorer southern regions, is advocating a federalist platform of political and economic decentralization.

In the early 1960s, the sociologist Daniel Bell made a simple but telling observation: Every four years to 2000 and beyond, Americans could be certain that there would be Presidential elections. "How many countries in the world can you say that about?" he asked.

That certainty—and the stability it conveys—is a unique characteristic of democracies. Yet along with stability comes flexibility and the opportunity for change. In democracies, a whole panoply of individual rights are protected constitutionally. Meanwhile, political parties battle for control. Businesses and individuals compete for profit, advancement, and prestige. And social institutions, from houses of worship to institutions of learning, compete for loyalty and support. Nowhere

but in democracies do such competing interests exist. This juxtaposition of certainty and flux is, ultimately, the best guarantor of economic well-being.

A democratic polity, says economist Douglass C. North of Washington University in St. Louis, cannot long survive in an environment in which there is no economic growth—different groups would be constantly warring over how to split a pie unchanged in size. The obverse is also true: Growth and prosperity cannot long be sustained in an environment that is undemocratic. "Over the short run, dictators can always get good growth," says North. But after a time, if democratization does not begin to secure gains for all the people who have earned them as well as ensure millions of others the opportunity to do better, anything can happen: a change of regime, confiscation, rebellion, a reversal of fortunes.

The democratic system is an imperfect one, but it is the most desirable one. At that meeting in Moscow 34 years ago, Khrushchev told Nixon that his grandsons would live in a communist America, and Nixon retorted: "No, your grandsons will live in a capitalist Russia." Russia may not yet be capitalist, but Nixon was more correct than he might have imagined. Recently, Khrushchev's son, Sergei, a visiting scholar at Brown University, became a legal, permanent resident of the U.S. His sons live in Moscow, and Sergei Khrushchev says he misses his homeland. But, he observes, "I'm feeling much freer here in my own decisions. . . . In Russia, we must always go and ask for permission. It's not enough to declare democracy. These changes take a long time."

By Karen Pennar in New York, with Geri Smith in Mexico City, Rose Brady in Moscow, Dave Lindorff in Hong Kong, and John Rossant in Rome

MILTON FRIEDMAN: STILL SINGING LET IT BE

Ask Milton Friedman, Nobel prize winner in economics, dean of monetarists, and stalwart free-marketer, which country in the world offers its citizens the broadest private-property rights, and his answer is, well, not even a country: "Hong Kong," he says, without missing a beat. "And that won't last for long."

In Friedman's opinion, the British Crown colony, which is scheduled to revert to China's control in 1997, demonstrates how the combination of economic and civil freedoms offers the best opportunity for economic growth and prosperity. Growth can occur without many civil freedoms, says Friedman—witness the rise of Singapore, a benevolent dictatorship that lacks many of those liberties. But Hong Kong, despite a faster-growing population, did a better job, he explains, by extending both economic and civil freedoms. In 1992, per-capita income for the colony's 5.8 million people amounted to \$16,672, while Singapore's 2.8

million residents enjoy per-capita income of \$15,964.

As for democracy, that's another matter entirely. "Democracy is an ill-defined term," says the 80-year-old economist, who spent most of his academic life at the University of Chicago and is now at the Hoover Institution at



FREE-MARKET FRIEDMAN

Stanford University in Palo Alto, Calif. "It confuses civil freedoms, such as the right to free speech and the right to congregate, with political freedoms, such as the right to vote." And that distinction is critical, he argues. If Hong Kong had gained political freedom as well, it "would have gone the way of India, Ghana, or other former

British colonies, where those freedoms were used to enact laws that interfered with the exercise of civil and economic freedoms."

Welcome to the world of Milton Friedman, where the only good government is the most limited government—one that doesn't set burdensome restrictions and that doesn't do for

individuals what individuals can do for themselves. The role of government, Friedman still believes—34 years after he wrote his paean to free-market economics, *Capitalism and Freedom*—should be simply to make rules and play umpire, to arbitrate where markets cannot sort out differences.

TAKE NO PRISONERS. Reasonable? Try to be sure. Friedman's views sound reasonable, but note that even many Democrats today concede: Government is just too big. But few would go along with Friedman's take-no-prisoners approach. Anytime government controls prices, adopts zoning laws, sets minimum wages, forces individuals to save for retirement (and decides how to invest the money for them), redistributes income, and above all, confiscates property through high taxation, it's exceeding its authority, according to Friedman.

The passage of time, he says, has made him more adamant than ever in favor of minimalist government. "I believe the former communist nations are trying to go where we were 50 years ago," says Friedman, "while we're trying to go where they were 100 years ago."

By Karen Pennar in New York

For the past thirty years, *Consumers Digest*, an independent publication, has published its "Best Buy" list to help sort automotive fact from fiction. And fact is, the Buick Park Avenue is its choice for a "Best Buy" among luxury automobiles for



the second consecutive year.

Fact, not fiction.

This finding is based on *Consumers Digest's* thorough investigation of

Park Avenue
could be the best
luxury car buy
in America.

But don't take our
word for it.

the facts: reliability, fuel economy, performance, braking, styling and overall quality. Facts that reflect Buick's commitment to offer you not only a safe and dependable luxury

automobile, but a car that delivers what it promises: quality and value.

An expert opinion.

Don't take our word that Park Avenue is a "Best Buy" among luxury automobiles, take the word of the experts at *Consumers Digest*. Then, stop by a nearby Buick dealer today to test-drive the car the experts are talking about.



BUICK

The New Symbol For Quality
In America.



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Buckle up, America!



WHY THE CHEMISTRY IS RIGHT AT CHEMICAL

Its merger with Manny Hanny gives it a breadth unsurpassed by other banks

Leisure Bowling Centers, with \$8 million in sales, doesn't exactly rank in the upper reaches of the corporate elite. The Syosset (N.Y.) company is just opening its eighth alley. Where did Leisure go for the financing? Chemical Banking Corp., the third-largest bank in the country, with \$82 billion in outstanding loans.

Down the road, in Hicksville, Long Island Lighting Co. is also a Chemical client. In fact, after borrowing from the New York bank for years, the \$10.3 billion utility just enlisted Chemical to help underwrite and sell a \$200 million bond offering. "We have al-

ways been extremely pleased with their performance," says chief financial officer Ralph T. Brandifino.

Chemical Bank wants to do business with just about every kind of customer. Flush from its merger with the former Manufacturers Hanover Corp., the new Chemical is pursuing a strategy that flouts current fashions in banking. Other major banks are narrowing their focus and concentrating on niches, both business and geographical. But Chemical seeks to become an old-fashioned, widely diversified bank, with a major

presence in retail as well as corporate banking, both in the U.S. and abroad.

Like proud parents, Walter V. Shipley and John F. McGillicuddy delight in explaining how the merger has given new Chemical the wherewithal to achieve a commanding position in a variety of markets. "I think the greatest single event the merger produced was taking two good banks, both of which did very little in the way of leadership positions, and in putting them together created leadership positions right across

the board," says Shipley, the tall, patrician president who is slated to replace McGillicuddy as chairman and chief executive on Jan. 1. McGillicuddy agrees: "I think we've got a great run in front of us."

A MODEL? Shipley believes Chemical, by bringing new capital and improved credit ratings, can make money by advising GM on syndicating \$25 billion in bank credit and issuing a \$1,000 CD. John Q. Public might feel there's strength in the diversity they have," he says. He's right, Chemical stands to become a model for other banks that are looking to merge as the banking industry consolidates.

But the strategy also has risks. Shipley and McGillicuddy pledge that they'll fo-

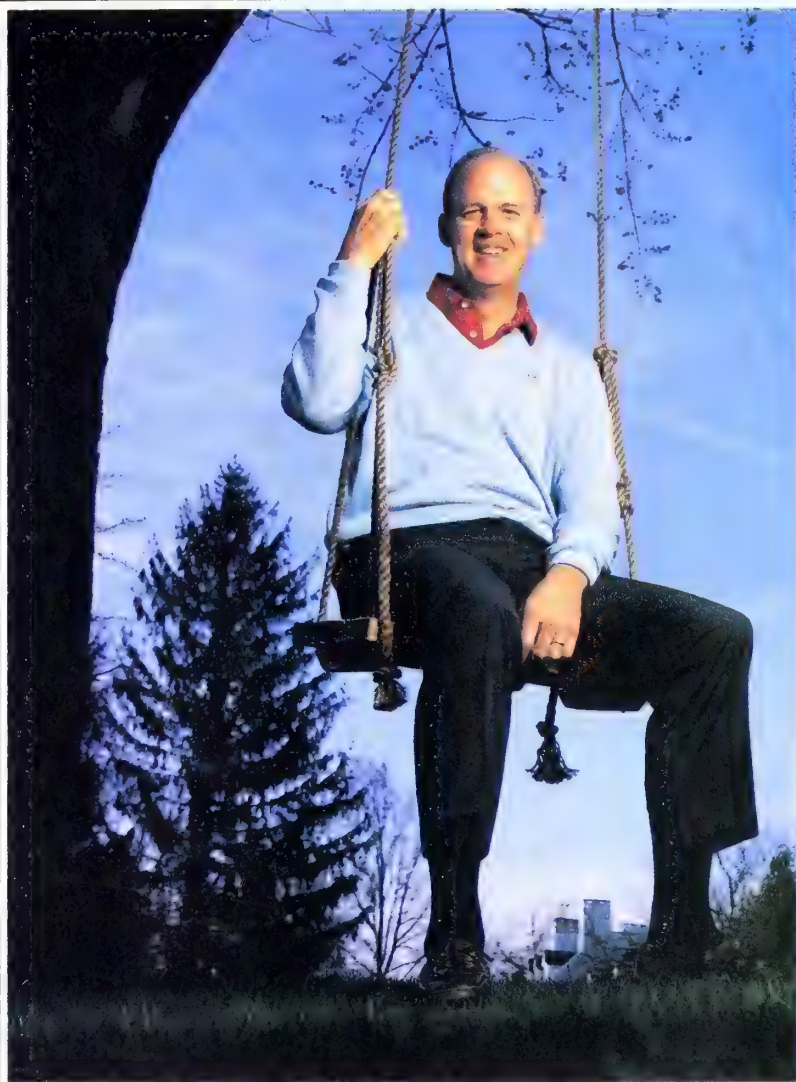
McGILlicuddy:
"WE FEEL
THERE'S
STRENGTH IN
THE DIVERSITY
WE HAVE"



markets where the bank is strong, but if you're not sufficiently disciplined, Chemical could find itself trying to do too much. Some of the largest and proudest banks in the country—including Citicorp, the nation's biggest—have stumbled after they attempted a broad diversification.

Although the new Chemical has saved nearly \$350 million in operating costs since the merger, it has yet to prune many businesses that lack a long competitive advantage. Indeed, Chemical is intent on preserving collegiality that has marked this first bank merger of equals, and has been rather slow in dealing with many of the challenges posed by the deal. The bank, for instance, has yet to develop a distinctive culture. The old Manny Hanny's culture was relatively fraternal and archaic. At the old Chemical, individual entrepreneurship was rewarded more. Asked about the new institution's culture, Shipley describes it as "developing."

ATES. Consider the formulation of new Chemical's mission statement. Last spring, Shipley, McGillicuddy, the bank's two vice-chairmen, and a consultant holed up for three days in Chemical's corporate suite at the Waldorf-Astoria to hammer it out. Ultimately, they produced a clear summary description of the bank they hope to build: "the best ad-based financial institution, a leader in our chosen markets." But their arguments while putting the statement together underscore some of the challenges a diversified bank faces. Hours went into debates over how to characterize the process of working together. Chemical Vice-Chairman William B. Harrison Jr., the aristocratic North Carolinian in charge of the global bank, argued for the intimate banking-like partnership, while



**SHIPLEY: THE DEAL
"CREATED LEADERSHIP
POSITIONS RIGHT
ACROSS THE BOARD"**

For all these real and potential roadblocks, the new Chemical has already made dramatic progress. The merger has given the bank the size it needs in a range of businesses to concentrate its advertising, realize economies of scale, and drive its revenues higher than almost anyone expected. "I'm astounded by how well they've done on the revenue-producing sides of the business," says Eugene M. McQuade, the former executive vice-president and controller of Manny Hanny who is now an executive vice-president and soon-to-be chief financial officer for Fleet Financial Group Inc.

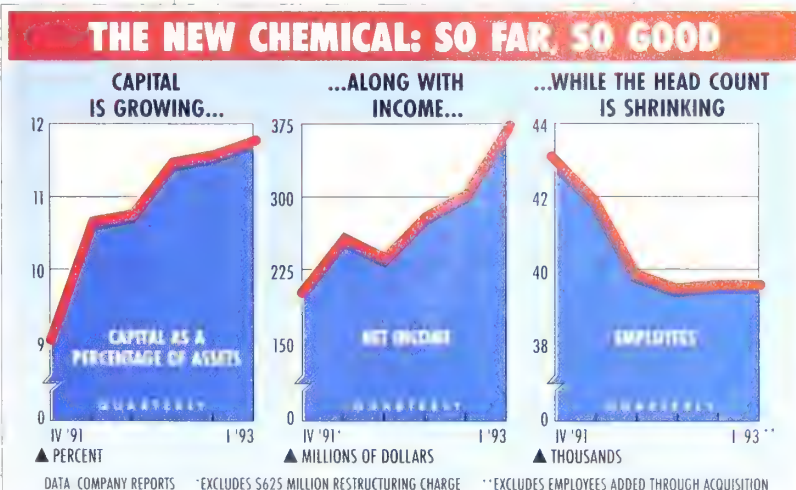
SERVICE BENT. Retail banking is a good example. Red, white, and blue Chemical signs dot hundreds of New York street corners, and the bank is second only to Citicorp in its share of the consumer banking market there. In a bid to differentiate itself

from Citi's emphasis on technology and Chase Manhattan Corp.'s subtle play for affluent customers, Chemical's friendly-sounding advertisements, many of which include employees' signatures and photographs, portray the bank as the one with the best all-around customer service. Some bank executives even have buttons on their desk that read: "It's the customer, stupid."

These potential problems are arising just as Chemical's biggest competitors are getting back on their feet. Nations-Bank Corp., the superregional based in Charlotte, N.C., is making deep inroads in the market for big corporate loans.

The same mindset prevails in the middle-market lending group. Senior Executive Vice-President William H. Turner got his lending officers to make 180,000 calls last year in New York State—more than any other New York bank. Turner himself makes calls on occasion, as do Shipley and McGillicuddy. Leisure Bowling's Reitzig remembers meeting Shipley at a golf outing arranged for middle-market clients.

As for corporate





■ **Vice-Chairmen Miller (consumer banking) and Harrison (global banking) represent the still-nascent melding of Manny Hanny's regular-Joe ways with Chemical's more white-shoe culture**



banking, Chemical dominates the market for large loan syndications, the business of leading groups of banks in major loans to corporate clients. "Jimmy Lee [head of loan syndications] and his people have done a great job of capitalizing on the Manny Hanny client list, and they've been able to maintain a lot of presence," says James J. Fuschetti, head of syndicated credit facilities at J.P. Morgan & Co. Chemical did nearly twice as much business as its closest competitor in 1992, and it kept up the pace in the first quarter of 1993.

The new Chemical is also proving that bigger is better in fee-based businesses. "We can match our size and scale in most businesses with the biggest players that are banks," says Richard J. Matteis, head of Geoserve, Chemical's transaction-processing unit. "The new, merged operation puts us right in the big leagues." Geoserve's scale, he says, will let him be a buyer as fee-based businesses consolidate.

RATINGS BOOST. Chemical is striking it rich in Texas as well. When Shipley bought Texas Commerce Bankshares Inc. in 1987, the deal was roundly criticized by Wall Street, which felt Shipley overpaid. But Shipley held on, and the new Chemical, bolstered by \$1.5 billion in capital raised following the merger with Manny Hanny, was able to buy the assets of the former First City Bancorp. when that bank failed in 1992. Today, Chemical's Texas unit is the leading corporate bank in the Lone Star state, and it ranks second in the highly lucrative business of banking for wealthy individuals. That's especially helpful given the improvement in the Texas economy since the mid-1980s.

Chemical is even making inroads in

the booming market for derivatives. At the end of 1992, the bank held interest-rate and currency swaps tied to \$422 billion of assets, up from \$245 billion a year earlier. The derivative business is highly credit-sensitive, and Chemical has been benefiting from its likely imminent advancement to double-A credit ratings from the major rating agencies. Says Harrison: "Our trading revenues have been way ahead of where we thought they would be. We have begun to close the gap between [Chemical and] Morgan and Bankers Trust in terms of trading revenues."

Further expansion is in the works. Just this month, Chemical received Federal Reserve authorization to underwrite corporate bonds, and it aims to be a major player in the next three or four years in the market for below-investment-grade debt. On the consumer side, the bank is weighing possible additional investments in its credit-card and mortgage businesses.

At headquarters, there's a new campaign to promote "cross-leveraging." Bankers working on products from credit cards to cash management are developing seven- or eight-person task forces to identify ways the bank can expand its sales of, say, cash-management services to middle-market borrowers.

Chemical still has plenty of hurdles to clear, though. Chief among them: an apparent slowness in making tough decisions. Shipley and McGillicuddy have been striving to avoid making officials from either Manny Hanny or the old Chemical feel disenfranchised, but the emphasis on consensus has slowed down the consolidation of the two companies. Although the merger was announced nearly two years ago, Chemical's top

four officers, along with the consultant firm First Manhattan Consulting Group, are only now starting detailed reviews of the bank's various business lines. Chemical is selling its upstate New York retail branches to Fleet Financial Group and it is unloading some small operations in Texas. But senior officers on both sides of Chemical demur when asked to identify other businesses to think don't make sense for the bank. Indecision about strategic focus could leave Chemical with its fingers in too many businesses where it doesn't have the scale to dominate, thereby diluting its overall clout.

"A CHALLENGE." Consider Chemical's New Jersey operation. It's the fifth-largest bank in the state, according to Turner—hardly the stature bank officials say they're aiming for in their major businesses. "New Jersey is a challenge for us," concedes Turner. But he says the subsidiary is more profitable than many banks in that state. In fact, he says, Chemical is considering acquisitions in the Garden State.

The strategic uncertainties may stem in part from the current absence of a strong corporate culture. Even though Manny Hanny and the old Chemical were more similar than many other New York banks, the disparity in personalities between executives from the two banks is marked. McGillicuddy, extraordinarily gregarious, is a fixture at New York charity events. He had a reputation for protecting mediocre employees even several levels down who were particularly loyal to Manny Hanny. Chemical executives tend to be cooler and more remote. And there is a class difference: Chemical "brought a lot more money to the organization," says a

Manny Hanny employee. According to the Chemical banker: "We've certainly killed the old cultures. But if you put new Chemical people in a room and asked them to describe the new Chemical culture, would you get the same 12 answers? No." The absence of that command puts Chemical at a disadvantage, to say, Morgan, where lateral hires are rare and where virtually all the bankers are steeped in Morgan's way of doing business.

The improving health of the banking industry is also creating a challenge for Chemical. The bank was able to make inroads in corporate lending and the while other banks around the world were pulling back from lending. "There was obviously a vacuum after Citicorp stepped back," says Robert Cohen, head of Credit Lyonnais' American subsidiary. "Chemical had the momentum to become the leading U.S. bank in terms of [loan] underwriting." But many big banks' profits are rebounding, so Chemical will soon face stiffer competition.

GOOD LUCK, GANG. There's also been a question about the CEO succession. At the time of the merger, McGillicuddy was to depart as CEO at the end of the year, but he left open the possibility that he would stay on as chairman. Rumors have swirled about whether he would in fact leave either post. But both McGillicuddy and Shipley say emphatically that Shipley is taking over on Jan. 1. McGillicuddy is particularly explicit. "Could I like to be here? You bet your eyes I would, because this is a great organization," he says. "I love the people I love what we're doing... but I feel more strongly that I've had my fill. When you have as strong a group as we have, then the best thing you can do is put your hat on, say, 'Good luck, gang,' and go out and do something

even an orderly succession might quiet some of the cavaliers in the ranks. Noting the relatively large number of former Manny Hanny bankers at the top of the bank now, their children worry that old Chemical bankers could replace many of them in the ranks.

Chemical executives expect that such questions as the development of a competitive ethos will be resolved over time. Meanwhile, Chemical is generating enormous momentum from merger-related savings as well as the power that comes with a dominant market share in very lucrative businesses. "It will be the greatest bank in America when the market shares it has," says a senior employee. "I wouldn't bet against it." The new Chemical's competitors would be well advised not to, either.

By Kelley Holland in New York

THE CAREFUL NAVIGATOR WHO'LL SOON BE AT THE HELM

Bill Ferguson wasn't surprised when Walter Shipley called to ask him to head up the New York Blood Center's corporate-donor program. After all, corporate chieftains tap one another for charity work all the time. But Ferguson, then president of New York Telephone, had plenty of reasons ready for why he couldn't spare the time. Then, he says, Shipley surprised him: By the way, Bill, he said, your term would be in 1990 and 1991. With no detailed plans for his free time four years hence, Ferguson agreed.

That kind of patient, deliberate planning is typical of Shipley. He still lives in the town in which he was raised—Summit, N.J.—and he's still happily married to his high school sweetheart. His choice of profession was a continuation of a family tradition: Shipley's father, L. Parks Shipley, is a partner at Brown Brothers Harriman & Co., and his brother, L. Parks Shipley III, was a longtime senior official at Irving Bank Corp.

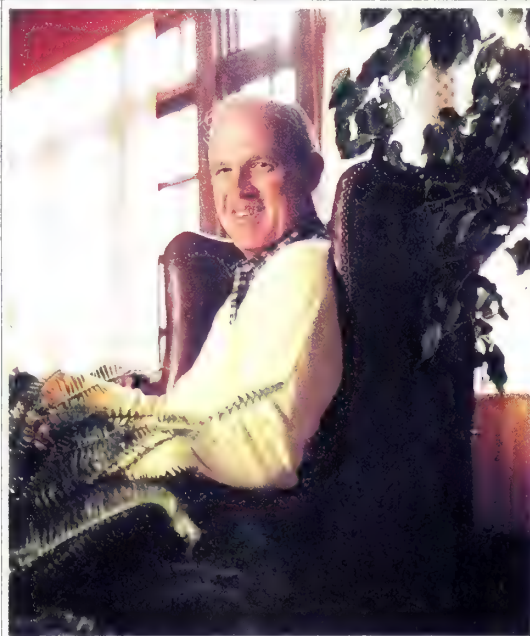
THREE LOVES. Shipley is deliberate in sports as well. Like any banker worth his salt, he is an avid golfer. Robert E. Allen, chairman and CEO of American Telephone & Telegraph Co. and a close friend of Shipley's, says that for both of them, golf is their third love, behind family and work. Shipley and Allen are part of a regular foursome who travel to Ireland and Scotland to play the major golf courses there.

Shipley's patience comes into play most clearly at work, though. To close the 1991 merger with Manufacturers Hanover Corp., he agreed to let Manny Hanny Chief Executive John F. McGillicuddy take over as CEO of the new Chemical Banking Corp. for two years. "He has never had a second guess about the arrangement," Allen says. In fact, in a photograph in the bank's 1992 annual report, the 6-foot, 8-inch Shipley, perhaps the tallest banking president in the U.S., chose to take a literal backseat to the 5-foot, 11-inch McGillicuddy by positioning his chair slightly back from the other man's so as not to tower over him.

Compared with the affable, outspoken McGillicuddy, who with his cigars

and pin-striped suits often resembles a banker from central casting, Shipley comes across more like a Morgan Stanley investment banker: soft-spoken, polite, reserved, somewhat private. In ability, though, Shipley is fully McGillicuddy's equal. "He is one hell of a bright cookie," says an analyst. "If you can break through the social graces, you will find a very contemplative man—and that's rare among bank CEOs."

The only apparent deviation from a seemingly preprogrammed career path occurred at Williams College, where he



SHIPLEY: TO CLOSE THE DEAL, HE AGREED TO GO SECOND

went after graduating from public high school in Summit. He left after three years, he says, having "not applied myself as rigorously as I did in later life." In New York, he got a job at New York Trust Co., and when that bank was acquired by Chemical, Shipley stayed on. He earned his bachelor's degree from New York University, taking classes at night with the help of Chemical's tuition-assistance program. He rose through the ranks of corporate banking to become chairman and chief executive officer in 1983.

At 57, Shipley still looks boyish. But he's serious about his mission at Chemical. He had better be: As incoming steward of the first banking megamerger of the 1990s, it's not just his height that's putting Walter Shipley in the spotlight.

By Kelley Holland in New York

PICKING THE BONES OF OLYMPIA & YORK

In U.S. Bankruptcy Court, a cross-border battle for the spoils

Not too long ago, many of the office buildings in lower Manhattan were part of one of the world's biggest real estate empires. Now, that empire, Olympia & York Developments Ltd. (OYDL), based in Toronto, has crumbled. And in a large, gray stone building, just a short walk from some of O&Y's most valuable properties, a bitter battle is now under way—in U.S. Bankruptcy Court. At issue: Who will control and extract any value from the company's U.S. subsidiary, which holds most of the last significant remnants of the O&Y colossus?

On one side is John E. Zuccotti, president of Olympia & York Cos. (USA), which is the American subsidiary of OYDL. Against all odds, he has managed to keep O&Y USA functioning and out of bankruptcy. He is trying to maintain control of O&Y USA. That effort has won the support of most of O&Y USA's creditors, the U.S. and foreign banks that have \$5.3 billion in outstanding loans to O&Y USA—and that are eager to protect their interests.

On the other side is Robert E. Lowe, a partner at Coopers & Lybrand's Canadian operation and the Canadian-court-appointed administrator of the bankrupt parent company's assets. He would also like to control O&Y USA. He is eager to protect the parent company's 80% equity interest in O&Y USA's real estate properties.

HIGH-WIRE ACT. James L. Garrity, the federal bankruptcy judge, is trying to get the two sides to work things out. If they don't, the properties could well be seized by the banks, which might dump some of them on the market. That, in turn, could

sharply decrease their value and further depress New York's already beleaguered commercial real estate market.

So far, Zuccotti has performed an impressive high-wire act in separating the U.S. subsidiary from the calamities of its parent. To preserve cash and win the trust of creditors, he ceased sending part of O&Y USA's revenue to prop up its ailing parent—despite protests by Paul Reichmann, then OYDL's chief executive. Zuccotti also refused suggestions from the parent company that O&Y USA stop paying city real estate taxes. But Zuccotti, a former First Deputy Mayor of

New York, arranged to pay the taxes in more manageable monthly installments rather than in semiannual chunks.

Creditors are impatient for the high-wire act to end, but they are leery of a closing. While all 12 of the New York properties—a total of about 20 million square feet—are in technical default as of May 26 no creditors had moved to seize any properties. In a May 21 hearing, a lawyer representing Sanwa Bank Ltd., a major creditor, testified about his reluctance. The lawyer said that a foreclosure will be "disruptive of the real estate market in the City of New York, that it will tend to destroy value on all the buildings."

FRESH SNAGS. The heated cross-border fracas has attracted some of New York City's most prominent attorneys. On May 14, attorneys for Citibank, which made a \$250 million loan to an OYDL subsidiary, filed a motion with the U.S. Bankruptcy Court to have Zuccotti appointed "its most responsible officer" of O&Y USA properties. But the Canadian administrator opposed the motion, saying it could not give Zuccotti that authority. The sides are maneuvering to control a board of directors for O&Y USA, which would be empowered to approve major operating decisions. On May 24, Judge Garrity said he would appoint an examiner to mediate between the parties and set a June 10 date for a status hearing. If there is no progress, he could appoint a trustee to supersede both parties.

Other remnants of the O&Y empire are also running into snags. The \$6.5 billion Canary Wharf project in London, which is now owned by a consortium of banks, is embroiled in a new dispute with senior British government officials over funding for the vital underground rail link to the project. Meanwhile, Paul Reichmann is on the prowl for distressed real estate as an investment adviser for the \$1 billion Quantum Realty Fund, launched by financier George Soros. Reichmann is said to be scouting around in Manhattan. But Zuccotti just might be able to point out some good real estate opportunities in New York.

By Suzanne Woolf
New York



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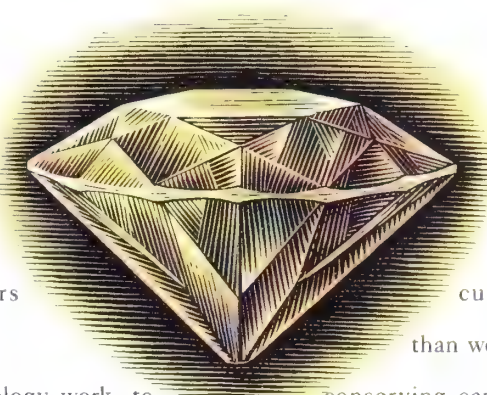
At Integrated Systems Solutions Corporation, we measure our success by the success of others. We provide information services and solutions that help our customers to prosper.

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BY GENE G. MARCIAL

GOING OUT ON A LIMB—FOR SPIDERMAN?

Lizabeth Barron, one of the hottest entertainment stock pickers around, hasn't been shy about sending a strong sell signal on such biggies as Time Warner, Paramount, and Disney, even when the crowd is going the other way. And neither has she held back on bullish calls when she thought shares were ripe for the picking. These days, the S.G. Warburg & Co. vice-president is negative on Paramount, wary of Time Warner, cool toward Disney. What does she like? Marvel Entertainment Group, which hasn't got many analysts marveling.

The bears have been heavily shorting Marvel, the nation's largest creator and publisher of comic books and other illustrated action material. About 3.9 million shares, or more than one-third of the company's 10 million-share float, have been sold short. The bears argue that Marvel, which leaped from 17 a share in late February to 28¼ on May 25, will plunge before long.

The shorts contend that the popularity of comic books is on the wane. So Marvel, they say, can't maintain rapid growth. They also say Marvel overpaid when it shelled out \$265 million for Fleer, a leading sports-card marketer, since that business has peaked, too.

Such claims don't faze Barron, who has just raised her 1994 Marvel estimate to \$1.35 a share from \$1.30, vs. \$1.05 for 1993. In 1995, she expects \$1.65. Marvel earned 66¢ in 1992.

COMIC ROCK. Barron believes that the shorts will bite the dust. "Over the past four months, Marvel has experienced the highest unit and dollar sales volume in its history as the market for its products expanded rapidly," says Barron. The comic-book business' near-term prospects "continue to be quite strong," says Barron, and should enable Marvel "to meet our second-quarter estimate of 26¢ a share," vs. 15¢ a year ago. She thinks her 1993 and 1994 forecasts are on the low side because management indicates that it's possible for sales to jump 30% in 1993.

Barron notes that Marvel will embark on new businesses to enhance its core operations, including a television series with such Marvel characters as Spiderman and X-Men, as well as videogames. Marvel also plans to publish



BARRON: UNFAZED BY THE BEARS, SHE SAYS MARVEL'S PROSPECTS ARE "QUITE STRONG"

a line of illustrated kids sports magazines, rock 'n' roll comic books, and comics for the Japanese and Taiwanese markets. The \$8 billion Japanese comic-book market dwarfs the \$1 billion U.S. market, notes Barron.

Barron predicts that over the next two years, Marvel stock will hit 45, based on the company's 25% growth rate. New York financier Ron Perelman recently raised his stake in Marvel from 60% to 80% in a tender offer.

A 'DOUBLE PLAY' ON DIASONICS

This may be one of those "where else, but on Wall Street" stories. Buy one stock and end up owning three stocks with a combined value more than twice the original stock. The company is Dasonics, a maker of X-ray machines and ultrasound systems.

Dasonics shares have been in a downswing all year, due, in part, to spreading worry over rising medical costs. Trading at 16 in mid-February, the stock has dropped to 10. Aware that Dasonics' assets are worth much more than 10, management decided to split Dasonics into three public entities to better define their market values.

The proposed split, expected to be done by early September, has "real shareholder-enhancement benefits," which make the three companies worth a combined \$25 in about a year," figures Tom Fendrich, who heads Fendrich Associates Institutional Research. He sees the stock rising possibly to 18 over the near term.

The company's three major operations are the OEC Medical Systems-Specialty X-ray unit, Dasonics' strongest business, consisting of mobile X-ray and fixed-room imaging systems; Dasonics Ultrasound, which hopes to rebuild leadership status by introducing the Spectra VST product line that helps physicians make more accurate diagnoses; and FOCAL Surgery, whose first product, Sonablate, is almost ready for market. This equipment produces high intensity ultrasound waves shown to be effective in treating enlarged prostate glands without surgery.

Fendrich puts a value of \$15 a share on the OEC unit and \$5 for Ultrasound. FOCAL Surgery, says Fendrich, is worth another \$5. At least one money manager agrees with Fendrich. He has accumulated about 5% of the stock.

THIS INSURER SHOULD TAKE COVER

Will U.S. Facilities, a provider of specialty insurance, need an insurance policy of its own against a possible hostile takeover bid? So far, Chairman and CEO George Kadonada doesn't think so. He has publicly stated that the company isn't for sale and that he is unaware of any interest in a deal. Yet U.S. Facilities is of rising interest to some pros.

One New York money manager insists that another insurer is very interested in U.S. Facilities' growing share of the booming medical stop-loss insurance market. Medical stop-loss insurance limits the liability of a self-insured employer under its group health plan.

This pro believes shares of U.S. Facilities, now trading at 9½, are "enormously undervalued," trading below the company's book value of \$10 a share. He notes that this is one reason why at least three investment groups, including one led by New York investor Gary Siegler and SC Fundaments, have been accumulating shares in the company. The stock hit a high of 11 in early May, fueled by rumors of a takeover offer by one of the groups. That fizzled out, and now there are whispers about the takeover interest of a large private insurance company.

One big investor says U.S. Facilities is worth \$20 a share in a takeover deal. The talk is that the company is considering buying back shares and initiating a cash dividend. Analyst Fred Hill at Hermitage Capital sees the company earning \$1.25 this year and \$1.50 in 1994, vs. 1992's \$1.10.



H E L E N H A Y E S

1900 - 1993

"All through the long winter I dream of my garden.
On the first warm day of Spring I dig my fingers deep into
the soft earth. I can feel its energy, and my spirits soar."

-Helen Hayes, 1992

Whenever we are in the garden,
we shall remember our dear friend.

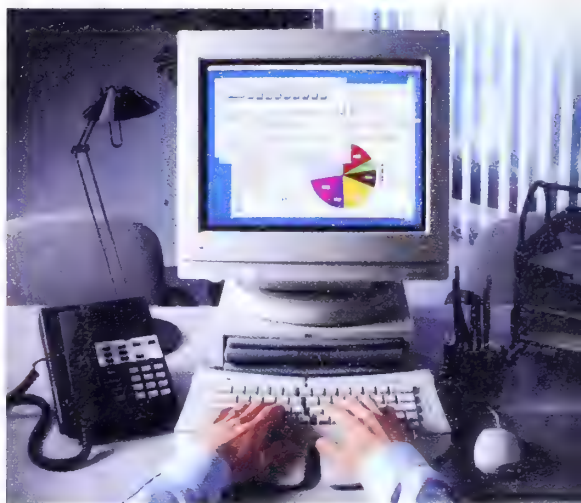
MIRACLE-GRO



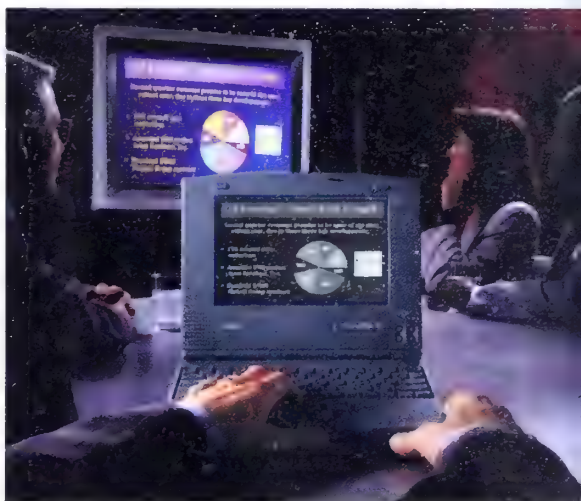
8:00 Home Over breakfast, you check your calendar on your PowerBook Duo. The day looks like it'll be a breeze. You'll put a few finishing touches on the Q2 forecast presentation that's due in a few days, return some calls and have a free afternoon.



2:50 Borrowed Office A colleague is at lunch, so you borrow his Duo Dock. You log onto e-mail back at the home office and learn your group has just won a new account. You put this news into your presentation (and change a few colors, too).



9:15 Your Office You slide your PowerBook Duo into the Duo Dock and start work. Suddenly, e-mail chimes. Your boss wants you on the noon shuttle to Boston, to present the Q2 forecast to his boss. Also, a client wants to see you ASAP. You hit the eject button.



3:30 Conference Room You clip on the Duo MiniDock and run the presentation on your PowerBook Duo. Everyone's impressed — especially the guy who asks a series of questions about a six-month-old project. You've got your files, so you've got the answers.

No other computer could go

For years, you've been trying to keep up with computers. Now there's a computer that can actually keep up with you: the Apple PowerBook Duo® System.

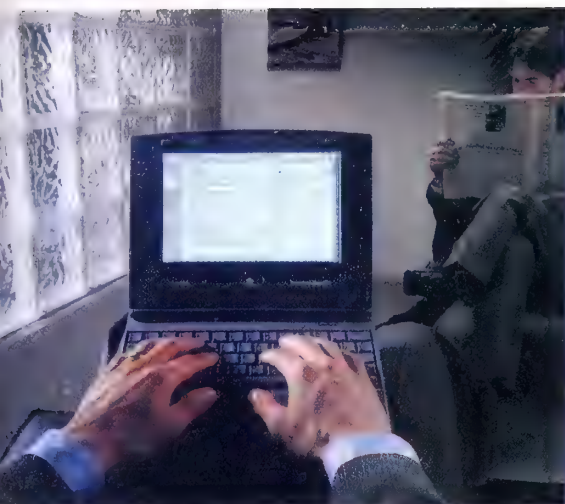
It's nothing less than the most flexible, adaptable and personal computer in the world.

On the road, it's a slim, sleek and powerful notebook computer.

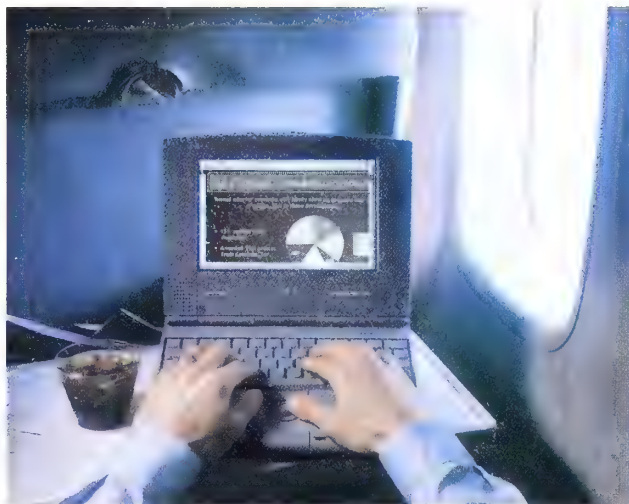
In the office, when plugged into a Duo Dock, it instantly becomes a fully expandable, no-compromise desktop computer that lets you work with a full-size keyboard and up to a 16-inch color monitor.

But what really sets the PowerBook Duo System apart from conventional docking systems is a bit of engineering genius called PowerLatch™ technology. A combination of elegant hardware and intelligent software

	PowerBook Duo 440	PowerBook Duo 240
Weight	4.2 pounds	4.2 pounds
Memory	4MB exp. to 24MB	4MB exp. to 24MB
Storage	80MB	80MB or 120MB
Display	9-inch backlit	9-inch backlit
Battery	Up to 4.5 hours	Up to 4.5 hours
Speed	25 MHz/ 68030	33 MHz/ 68030



Your Client's Office That \$5 million project the client told you was off last time is on again. And due in two weeks. You type up job orders, which you'll fax on your PowerBook when you get to Boston. Now, however, you have to get to the airport.



12:40 Noon Shuttle All the files and software you use at your desktop are with you. You pull up the Q2 presentation and make the revisions to reflect the new assignment. Then you write a memo to your team, to make sure that everything's on schedule.



Your Office On the way home, you swing by the office to tie up a few loose ends. Your boss. He heard the meeting went well, and wants you to fly out and to the people in London. Tomorrow. You send out a memo to update your staff.



8:30 Living Room Since you've got all your files and software right there with you, you could study the new research data or finish up those performance reviews. But hey, enough is enough. You settle back in your recliner and play a few rounds of Tetris.

You through a day like this.

you move in and out of the office with tremendous ease. There are no cables to fiddle with and no complicated "configuring" procedures. Just slip the PowerBook Duo into Duo Dock, and the system automatically recognizes all your working resources and attached peripherals. Simply push a button, and a motor gently releases the PowerBook Duo. (It will remind you to save any unsaved files, just in case you forget.) Now, wherever you go, your files go with you. You can even add an optional PowerBook Express Modem, to

let you send and receive documents while you're on the road.

To experience the PowerBook Duo System for yourself, call 800-732-3131, extension 100, for the name of the authorized Apple reseller located nearest you. (If you're in Canada, call 800-665-2775, extension 910.) And no matter how dramatically things may change in your life, at least you'll always have the one power you can depend on. The power to be your best.

PowerBook Duo from Apple 

BOOB TUBE NO MORE

The race is on to build digital TV converters—and some will lose

The computer industry has seen the future, and it's sitting in your living room. Today, your television brings you *The Simpsons* and *Murphy Brown*. But in a few years, it will bring you on-line shopping, electronic banking, and electronic video mail.

Of course, all by itself, the low-tech TV won't suddenly become an on-ramp to the digital information highway. The brains will come from a new form of cable converter box—one souped up with the electronics of a sophisticated personal computer. Even without all the new information services, the new digital cable boxes will be needed just to surf through the 500 channels that cable companies promise, starting as soon as next year. Market researcher Paul Kagan Associates predicts that by 1996, the U.S. market for digital cable converters will reach 4.5 million units annually, as cable companies upgrade the 65 million converter boxes now in use. The new boxes will cost \$200 to \$300 apiece, about twice as much as current cable boxes.

NEW ALLIANCES. But winning the race to create the new set-top box will involve bigger rewards: Whoever controls the converter stands to gain a key role in determining the shape of the digital future. That's because the new set-top boxes likely will be the gatekeepers—or tollbooths—for the information highway.

That's why computer, cable-TV, home-electronics, software, and phone companies are racing to create such boxes. And because the risks are high, companies from chipmaker Intel Corp. to gamemaker Sega Enterprises Ltd. are teaming up with the cable industry in the hopes of building the universal set-top box for the age of interactive

television. "The TV is the most prevalent information device in use today," says Nathan P. Myhrvold, Microsoft Corp.'s vice-president for advanced technology and business development. "When it becomes interactive, it will make a profound change in the way we live."

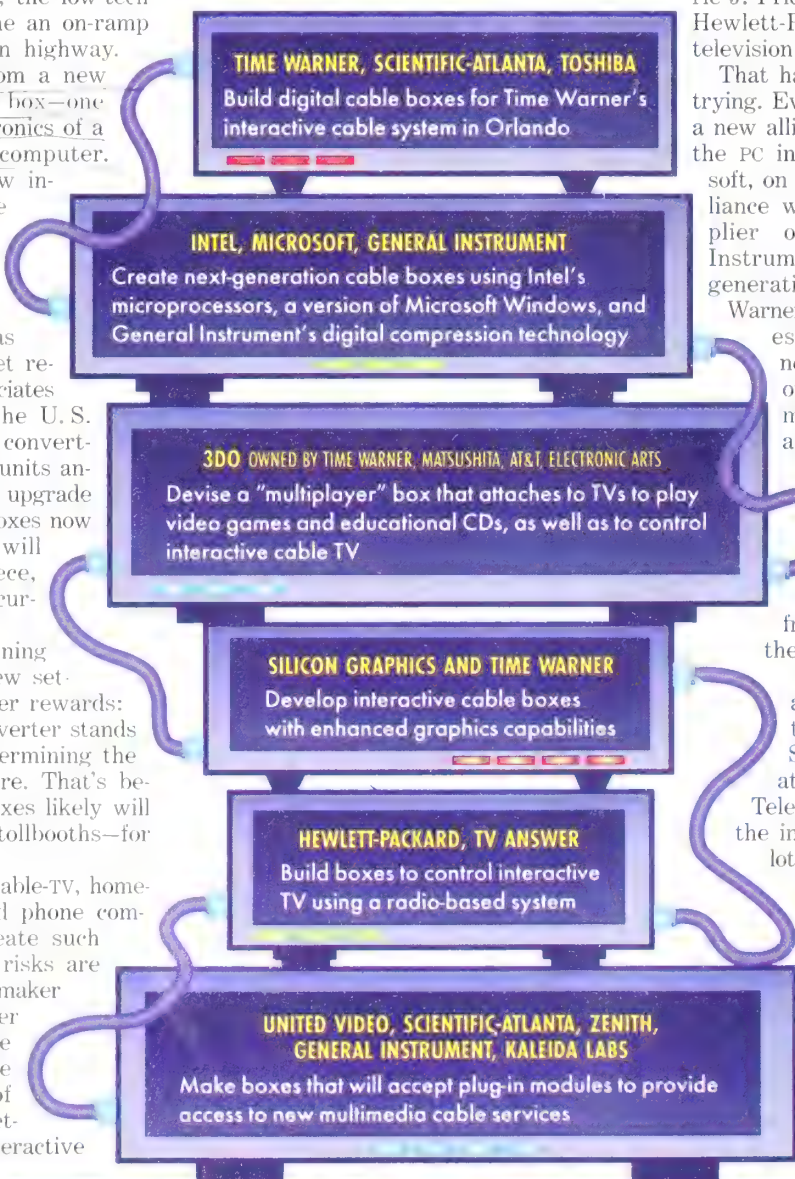
That is, if anybody can figure what technology should go into the boxes. This hybrid market is likely to stumble before it flies. Cable and phone companies, as well as information-services suppliers, are experimenting with interactive TV, which will allow, for example, viewers in different cities to play a video game together. But nobody really knows what kinds of features customers are willing to pay for.

SHAKEOUT. The new devices also will require an unprecedented mix of technology from the cable, television, and computer industries. At the start, companies are proposing incompatible products and services—all but guaranteeing a shakeout. "There's a lot of money to be lost at the front end of this market," says Laurie J. Frick, marketing manager at Hewlett-Packard Co.'s interactive television appliances unit.

That hasn't stopped many from trying. Every week seems to bring a new alliance. The two leaders in the PC industry, Intel and Microsoft, on Apr. 27 announced an alliance with today's leading supplier of converters, General Instrument, to produce a next-generation converter box. Time Warner, the nation's second-

largest cable operator, announced a similar alliance on May 10, with cable-maker Scientific-Atlanta and Toshiba (table). Intel analyst Thomas J. Adams counts a dozen such announcements in the past month. "Nobody wants to read 10 years from now that they missed the boat," he says.

This mishmash of alliances may not be a good thing, according to Stanzone, a vice-president at American Telephone and Telegraph Co. "It's good for the industry for there to be a lot of cross-pollination of ideas in order to get things rolling," he says. At an unlikely content has entered the stakes by winning a joint bid with General Instrument Corp. to provide broadband to Tele-Communications Inc.,



"Turn on the TV or radio—open a newspaper or magazine—and odds are you'll find an ad for a Procter & Gamble product.

Why? Because I believe advertising has the power to bring to consumers the news, the benefits, and the rewards of our many products.

"Why do we invest so much in advertising? Because it works!"



Edwin L. Artzt, Chairman and CEO, The Procter & Gamble Company

I believe in its value, too.

I believe when you start with products like ours—products that make people's lives better—people are loyal to them because of the positive brand character great advertising creates.

And it's our long-term commitment to advertising that's helped put our brands in 97% of all American households.

Sure, all of us would like to think what we make is so superior that one use, one taste, one washing, one box, and zap—we have a loyal user for life.

If it were only that simple. Fact is, people need to want to try your product. They need to have their beliefs challenged. And that's where advertising's words and images—and ideas—rise to the occasion.

In the end, no consumer-driven company can hope to remain a leader without a deep-seated commitment to advertising, for one undeniable, irrefutable reason:

It works."



American Association of Advertising Agencies

nation's largest cable-television operator. AT&T also owns part of 3DO Co., a Silicon Valley startup that is building an interactive game machine it hopes could someday double as a cable box.

What makes all this possible is the coming of digital television transmission. Both the TV signals sent over the air and through cable will be changed from the current analog format to the ones and zeros of computer language. These digital signals can be compressed by computers into small packets so that cables can accommodate hundreds of channels. Those signals must be decompressed at the other end by a digital converter connected to, or built into, the TV.

"We realized that you're essentially talking about a computer," says Avram Miller, vice-president for business development at Intel. That gives PC makers, such as Apple Computer, and software makers, such as Microsoft, an edge. "The computer industry offers the ability to sort and search through large amounts of information," says James C. Kedersha, a Cowen & Co. analyst.

What kind of information will the new boxes bring? Backers are experimenting with many different forms of interactivity. Cable companies plan to offer thousands of movies on demand, which viewers could order through their set-top boxes in seconds. Parents might be able to send videos of children directly to the TVs of dotting grandparents. MTV fans might order a compact disk after seeing a video they like, automatically charging it to their credit cards. Consumers might play along with game shows from home to win prizes.

There seem to be as many proposed ways to design controller boxes for these new computer-TVs as there are ideas for services. General Instrument, Intel, and Microsoft are designing a digital cable box from conventional PC components, including derivatives of Intel's PC microprocessors and Microsoft Corp.'s Windows operating system. General Instrument hopes that the thousands of software programmers familiar with these systems will create programs for the advanced TV boxes. The first boxes from the team are due in 1994.

DIGITAL RULES. Other PC players also are eyeing the cable-box market. Apple Computer Inc. is developing what Gaston A. Bastiaens, vice-president of the company's Personal Interactive Electronics Div., describes as "smart receivers." Apple has not yet announced any products, but Bastiaens says "we are talking to major players in the [television] industry." IBM also is believed to be pursuing alliances aimed at developing digital TV boxes.



MICROSOFT'S MYHRVOLD: INTERACTIVE TV WILL PROFOUNDLY CHANGE OUR LIVES

Others think PCs are a poor starting point, since set-top boxes will need easier-to-use, more video-capable software than PCs offer today. Time Warner, for one, not only is developing boxes in partnership with Scientific-Atlanta and Japanese computer giant Toshiba, but is considering microprocessors and other technology from Silicon Graphics, whose workstations now create special effects for movies. Time Warner, in addition, has an investment in 3DO.

And there are two wild cards: video-game makers Nintendo Co. and Sega. Sega has taken the first tentative steps with The Sega Channel, a joint venture with Time Warner and TCI. The channel will allow subscribers to tap into any one of thousands of video games for use at home. Although Nintendo has not yet announced any products or ventures for interactive television, "we've got grooves

in front of our building from people coming to talk to us," says C. Peter I. network plan director at Nintendo America.

Further, it is difficult to design a set-top box if you're unsure what type of cable or other network it may tap into. There are, however, early signposts on what these interactive systems will be like, and several companies are experimenting with advanced systems. One prototype is under construction in Orlando by Time Warner. When service begins later this year, the system is expected to provide the first true two-way capabilities: A single program could be sent on command to just one home, much as a phone call is directed to one house.

INFORMATION MORASS. Also unclear how the new boxes will be sold. Should cable companies continue to buy them and exact a monthly fee for customer use? Or should the boxes be sold directly to consumers, like videocassette recorders and video-game machines? A factor is recently stepped-up cable regulation, which is likely to play a role in how boxes are distributed. An argument for retail sales is to let consumer demands spur quicker innovation. The catch: Before you could buy a box at the local electronics store, there would have to be agreed-upon standards to ensure it would work with any cable system.

And such standards may not appear for years, though some companies are trying. When TCI announced plans in December to buy up to a million digital boxes from General Instrument, AT&T, it required both companies to license their box technology to others. The move seems to be an attempt to set a standard, though TCI says the reason is that it doesn't want to be locked into just a handful of box suppliers. "I don't want to be in the position of not being able to buy whatever supplier idea is out there," says Tom Elliot, vice-president for engineering and technology. Until there is a standard, likely players are hanging back. "There's a very confused morass of information out there today," says Nintendo America's Eck.

Standards aside, the race is on to build the next-generation cable box. The vision of tens of millions of homes receiving PC-like cable boxes is practically insupportable. And as cable and phone companies spend billions this decade to build information highways, nobody wants to be stalled on a side road.

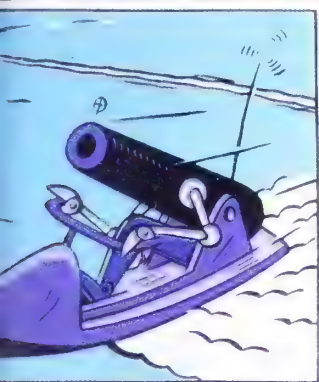
By Richard Brandt in San Francisco with Ronald Grover in Los Angeles, Chuck Hawkins in Atlanta, and Bart Glaser in New York

It's unclear how the new converter boxes will be sold—and it could be years before agreed-upon standards appear

Developments to Watch

D BY PETER COY

STEALTHY SPY BOAT JAMES BOND WOULD LOVE



High on the military's wish list are small robot submarines capable of spying and attacking behind enemy lines. But when such underwater craft proved expensive and difficult to develop, engineer Howard Hornsby thought there must be a better way. So, drawing on his hobby of racing radio-controlled model speedboats, he started a

company to create a robot boat. Such a craft is hard to spot either radar or sonar, he says, because "the best place to be is on the surface."

Now a company Hornsby founded, International Robotic Systems Inc. in Riviera Beach, Fla., has unveiled a 10-foot-long boat that looks like something out of a James Bond movie. The Owl Mark II can skim along at 35 knots, follow either radio instructions or programmed routes using navigation satellites, carry everything from cameras to rockets, and transmit back what it sees and hears. The Navy is testing it for coastal surveillance and minesweeping. Hornsby is hoping it will catch on for such civilian uses as nabbing drug smugglers and searching for oil spills. The cost: \$650,000 and up.

LOW-RUNNING COMPUTERS CAN SHIFT INTO REVERSE

Computers consume some 5% of the commercial energy used in the U.S., according to the Environmental Protection Agency. That costs plenty. And as computer chips become smaller, the electricity surging through their circuits makes them harder and harder to keep cool. Now, some scientists are proposing that an unusual theoretical design called "reversible computing" may help. After performing a calculation, a reversible computer would return to its initial state by running the calculation backward and recovering the charges stored in capacitors instead of discharging them as excess heat. The concept has been around since the early 1970s, but mostly as an academic exercise. In the past couple of years, a number of researchers have begun working on designs that could produce real reversible-logic chips. One enthusiast is John M. Merkle, a researcher at Xerox Corp.'s Palo Alto Research Center, who believes such machines can be built from today's most common low-power chips. Within a few years, Merkle says, reversible logic chips could be used in exotic applications such as computers in space, where energy conservation is critical. Predicts Merkle: "Sometime in the next century, reversible logic will dominate computing."

N-MADE DIAMONDS LEARN A NEW TRICK FROM MOTHER NATURE

In films of synthetic diamond are showing up on everything from drill bits to computer chips. Engineers praise the material's hardness, transparency, thermal conductivity,

and resistance to radiation. Still, the more expensive natural, single-crystal diamonds have one edge over synthetic, polycrystalline ones: Electrons travel through them much more rapidly. That's important for fabricating electronic devices, such as transistors and detectors, from diamond films.

Now, in an article in the May 28 edition of *Science* magazine, researchers from Crystallume in Menlo Park, Calif., Lawrence Berkeley Laboratory, and Lawrence Livermore National Laboratory say there's hope. They say they produced polycrystalline diamond films through which electrons and their counterparts, positively charged "holes," can travel as rapidly as in single-crystal diamonds. They did it by reducing impurities and raising temperatures while laying down the films by chemical-vapor deposition. Crystallume staff scientist Mary Anne Plano says the films could be sensors for tracking the short-lived particles created in high-energy physics experiments. Indeed, the lead sponsor of the research was the Energy Dept.'s Superconducting Super Collider laboratory.

'ANTINOISE' HEADSETS LET THE MUSIC COME THROUGH LOUD AND CLEAR

Noise cancellation—once a technology reserved for the likes of fighter pilots—is about to reach the consumer market. Prices of earphones that suppress unwanted sounds by generating equal and opposite "antinoise" sound waves have recently dropped from more than \$1,000 to as little as \$500. Now, at least two companies are poised to hit mainstream consumers with earphones priced under \$200. On May 27, Noise Cancellation Technologies Inc. in Stamford, Conn., was set to unveil a family of NoiseBuster headsets priced at \$99 to \$199. A rival, Active Noise & Vibration Technologies Inc. in Phoenix, says it plans to introduce a similar headset priced at around \$189 in August or September.

Noise Cancellation says its NoiseBuster can reduce noise by up to 10 decibels, which represents roughly a 50% reduction in perceived noise. The headset can be worn alone or used in conjunction with portable cassette or compact-disk players. That way someone could, say, listen to music while mowing the lawn without cranking the volume way up.

THESE BACTERIA WANT TO CLEAN YOUR DRAIN

It's easy to dispose of most unwanted liquids—just pour them down the drain. But blood clogs drains and is a pollutant that many cities ban from disposal in the sewer systems. That creates headaches for hospitals, slaughterhouses, and mortuaries.

Environmental Biotech Inc. has a solution—put a Dracula in your drain. Within 90 days, the Sarasota (Fla.) company plans to field-test a cocktail of seven strains of bacteria that reduce blood to carbon dioxide and water, so it can run down the drain harmlessly. Through franchisees, the company will market a bacteria-filled chamber that can be hooked to drains. The company's first product was a set of 13 strains of bacteria that eat grease. Its customers include Burger King Corp. and Hilton Hotels Corp.



FIREFIGHT OVER THE WEAPONS LABS

Can Uncle Sam's massive R&D machine really help industry?

At first glance, DYNA3D is a rousing success story of beating swords into plowshares at Uncle Sam's vast weapons laboratories. Developed by the bomb wizards at Lawrence Livermore National Laboratory in Livermore, Calif., DYNA is sophisticated computer software for simulating the workings of nuclear warheads. Because it can be used to study how metal deforms, it's now also being applied to designing everything from stronger beer cans to safer cars. And lab researchers have spun off Livermore Software Technology Corp. to create and sell commercial versions of the software. "DYNA is a classic case where the national labs have really helped American industry with a technology that was developed for weapons," says laboratory engineer Robert G. Whirley.

Yet there's a darker side, critics say. Lab scientists are increasingly working directly with corporations that use the software to improve it. The lab's software code is free. As a result, charges Bence Gerber, marketing vice-president of Livermore Software, the national lab is acting not as a friend of U.S. industry but as a formidable rival. "It's very difficult to compete with a product that's free," Gerber complains.

This spat over DYNA3D is part of an enormous dilemma: what to do with the national laboratories. Over the past half-century, the U.S. government has created hundreds of facilities for research into nuclear weapons, science, medicine, and agriculture. Ranging from the Army's Cold Regions Research Lab in New Hampshire to Agriculture's Cotton Ginning Research Unit in Mississippi, these have a combined budget of \$22 billion a year, 30% of the \$72 billion federal R&D budget. Now, in both govern-

ment and industry, there's "a growing feeling that we're not getting an optimal return on our investment," says President Bush's science adviser, Yale University physicist D. Allan Bromley. The quandary is most acute for the huge nuclear weapons labs—Livermore, Los Alamos, and Sandia (table). "When we needed the muscle to win the cold war, the ideas that made that possible came out of these laboratories," said President Bill Clinton during a May 17 visit to Los Alamos, N.M.

Today, however, the weapons labs are scrambling to find new missions. Each is more than twice the size of the research operations at giants such as AT&T Bell Laboratories and IBM, or at major universities such as Stanford. Bristling with supercomputers and other advanced technology, the weapons labs consume about \$3.57 billion per year of the Ener-

tion. Many in Washington and lab officials themselves want to use them to boost U.S. competitiveness. Livermore Associate Director Roger W. Werne imagines federal scientists helping companies develop clean cars, powerful chips, and new environmental technologies. "We believe in our hearts and souls that it is important for the country," says Andrew B. White Jr., head of Los Alamos' renowned supercomputing unit. So does the White House, which has made links between industry and these laboratories central to its R&D policy. Their technology can "revolutionize the economy," says Clinton.

LENGTHY MAZE. This new role raises troubling issues, however. "The labs have enormous resources, but they're not that well connected to our civilian industrial economy," says Clinton's science adviser, John H. Gibbons. Indeed, companies must get through a time-consuming bureaucratic maze to hammer joint research agreements with the labs. Moreover, corporate executives and venture capitalists say they rarely find useful technology on the shelf.

Most damaging is the argument that these labs will have little bottom-line impact on U.S. industry. "We see a lot of utility in working with the labs, but we are kidding ourselves if we say that will make Corning much more competitive," says David A. Duke, vice-chairman and R&D chief at Corning Inc. So

THE FEDERAL LABORATORY SYSTEM

Some 700 U.S. government laboratories form a sprawling \$22 billion-a-year R&D empire. The main players:

ENERGY	DEFENSE	NASA	HEALTH	AGRICULTURE	COMMERCE
21 labs, includes nuclear bomb labs, particle accelerators, and renewable energy facilities	27 major labs; 19 Army, 4 Air Force, 4 Navy	8 major labs	In-house research at National Institutes of Health, Centers for Disease Control, and 14 other labs	221 labs, includes research centers for everything from soybeans to boll weevils	52 labs, includes National Institute of Standards & Technology
\$9.0	\$7.0	\$10.0	\$3.4	\$0.8	\$0.6
billion	billion	billion	billion	billion	billion
ANNUAL BUDGETS					
DATA: COUNCIL ON COMPETITIVENESS, ENERGY DEPT., NASA, AGRICULTURE DEPT., BUSINESS WEEK					

gy Dept. budget—more than the National Science Foundation spends on basic research. But while they designed and built the most advanced nuclear weapons, "what's still to be proven is their ability to do anything else," says the Alfred P. Sloan Foundation's Hirsh Cohen, who chaired a high-powered panel that studied the labs in 1987. These facilities, adds University of California Berkeley chemist Bruce M. Novak, are "dinosaurs struggling to become mammals."

The fate of the three labs depends on whether they can make that transi-

executives, such as James A. Ionson, search director at Polaroid Corp., believe the billions of dollars could be better spent shrinking the deficit, reducing corporate taxes, or improving the workforce through better science and engineering education. If Washington wants to transfer lab technology, says Joseph G. Morone, director of Renwick Polytechnic Institute's Center for Science & Technology Policy, "it would be better simply to give money to companies to hire lab scientists."

Proponents say the labs haven't ha-



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A PRODUCT
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COLD WAR LEGACY

The three big U.S. weapons labs dwarf the research operations of even the largest U.S. corporations

WEAPONS LABS	1992 RESEARCH BUDGETS	STAFF
SANDIA NATIONAL LABORATORIES	\$1.4 BILLION*	8,600
LAWRENCE LIVERMORE NATIONAL LABORATORY	\$1.14 BILLION	8,037
LOS ALAMOS NATIONAL LABORATORY	\$1.02 BILLION	7,550

* INCLUDING ENGINEERING

CORPORATE LABS

AT&T BELL LABORATORIES	\$320 MILLION	1,400
TOTAL BELL LABS R&D, INCLUDING PRODUCT DEVELOPMENT, IS \$3.2 BILLION		
IBM	\$500 MILLION	3,200
TOTAL IBM R&D IS \$5.01 BILLION		

DATA: ENERGY DEPT., BUSINESS WEEK

chance to prove their worth. Although Congress passed laws in 1986 and 1989 directing them to push technology to companies, "there was a lot of reluctance to tech transfer under Reagan-Bush," says Senator Jeff Bingaman (N.M.). Now that Clinton's team has made it clear that the labs' future size depends on how valuable they are to industry, "these folks are getting religion fast," says Dan E. Arvizu, head of technology transfer at Sandia. The three weapons labs now have 192 cooperative agreements with industry, up from 15 in 1991. "This is a wonderful opportunity to bring a huge amount of expertise in a way we can afford," says Richard J. Kegg, vice-president for technology at Cincinnati Milacron Inc., which has an \$8 million program with Lawrence Livermore to develop more accurate machine tools.

Success stories may remain rare, however, critics contend. Making research pay off with new products is hard enough within a company. And the labs have a starkly different culture—a tradition of secrecy and performance at any cost. "It's tough for our guys," concedes V. Adams, director of technology transfer at Los Alamos. "How to do it better and faster was not the mental challenge of the labs."

The huge gulf between industry and academic research explains why billions of taxpayer dollars spent at the labs in the 1970s on alternative energy sources produced few practical results. It also

explains why the innovative technologies they've concocted—such as ultralightweight aerogels—are commercial wallflowers, too expensive to produce. And why companies such as Quadraex Corp., a Portsmouth (R.I.) high-tech composite maker, haven't been helped. "A few years ago, Livermore did some analysis of our materials," says CEO Richard A. Fisher. But the security-conscious lab kept the results secret—even from Quadraex. "It didn't do us much good," Fisher says.

THORNY QUESTION. Many companies can't afford to contend with the labyrinthine bureaucracy. "The labs' knowledge could be of considerable help to us," says Jim Simon, engineering vice-president at machine-tool maker Giddings & Lewis Inc. in Fond du Lac, Wis. "But we don't have the administrative layer for dealing with the government—nor do we want to add it."

Then there's the thorny question of how much these labs can offer. After massive taxpayer investments, "there jolly well ought to be something," says J. David Roessner, professor of public policy at Georgia Institute of Technology. One measure of the commercial promise of their tech-

nology is the number of spin-off companies. With only 40 or 50 each, the big labs fall far short of major universities such as Stanford or Massachusetts Institute of Technology, which have spawned hundreds.

Nor are these labs attracting many venture capitalists. The reason, speculates Don Valentine, general partner of Sequoia Capital in Menlo Park, Calif., is that what really matters in starting companies is entrepreneurial zeal, not great technology. "I'd rather have second-rate science and people with phenomenal passion than the reverse," he says. "And in my experience, there are few people like that in the labs." Lab officials aren't surprised. "The labs have been a closed institution for a long time," says Livermore's Werne. "It has not been our charter to spin things off."

When it comes to technology, moreover, "there are a limited number of nuggets out there," says Georgia Tech's Roessner. They include supercomputer simulations, advanced materials, precise machining, and high-powered lasers. As industry mines these nuggets, "this will level out soon," he predicts. More troubling, a survey he did for the Industrial Research In-

SHARING THE WEALTH



* COOPERATIVE RESEARCH & DEVELOPMENT AGREEMENTS BETWEEN INDUSTRY AND ENERGY DEPT. LABORATORIES

DATA: ENERGY DEPT.

NEED R&D HELP? IN TENNESSEE, DIAL O-A-K R-I-D-G-E

Making pencils isn't nuclear science. But when Faber-Castell Corp.'s Lewisburg (Tenn.) pencil plant ran into production problems, it called in Oak Ridge National Laboratory. John M. Googin—a veteran of the Manhattan Project team that built the first atomic bomb—showed up with other scientists to see why diamond-tipped bits used in extruding graphite for pencil lead were wearing down. The group sent samples from the plant to Oak Ridge, where graphite is a key material in the nuclear industry. "They said, 'We've done this before,'" recalls Victor U. Ebolum, laboratory manager for Faber-Castell. The company is testing possible fixes. The lab's consulting fee: nothing.

Companies throughout Tennessee are starting to tap Oak Ridge's expertise. The lab began setting up Cooperative Research & Development Agreements, or CRADAs, in 1990, after Congress approved the idea. At first, paperwork was an obstacle. "If there isn't a quick, easy way to deal with these companies, it just doesn't work," says James E. Radle, a technology transfer manager at Martin Marietta Energy Systems Inc., the contractor that manages Oak Ridge.

GRIDDLE RIDDLE. So Oak Ridge began a new type of CRADA last year with the University of Tennessee's Center for Industrial Services and the state's Economic & Community Development Dept. They identify companies Oak Ridge can help—and cut the red tape. Each Tennessee company gets up to four days of free help, which can involve on-site consultations, use of laboratory equipment, or picking staffers' brains. "When you marry that expertise with the needs of a company, it's almost a guaranteed success," says T. C. Parsons, executive director of the Center for Industrial Services.

Take Star Manufacturing Co. The \$24 million maker of popcorn poppers and hot-dog cookers called Oak Ridge to its Smithville (Tenn.) plant to help keep griddle plates from rusting in storage. Oak Ridge suggested using a special paper coated with rust-inhibiting chemicals between every metal slab. Next, Star asked about a blue mark left on the griddle front after a seam was welded on the back. The

Oak Ridge solution—bathing the griddle front with an inert gas during welding—eliminated the need for workers to clean and polish the griddle front. That saved about \$10,000 a year.

Some companies do much better. The lab's chief chemist helped a metal-coating concern change its process and eliminate the need for a costly chromate-waste treatment facility. Savings: \$100,000-plus the first year.

More than a dozen field agents seek and cull candidates for technical aid. The university's center, which focuses on small companies, aims to line up



ENGINEER EBOLUM GOT FREE ADVICE

65 projects a year. The state's reps go out on more than 3,000 visits to companies and industry groups annually, says Joe B. Brandon, the agency's director of services to industries—and help 50 per year.

Tennessee's network won't be easy to replicate nationally. Still, Senator Jeff Bingaman (D-N.M.) believes that such approaches are the key if the laboratories are to help private industry. "The only way to get from here to there is to use state and local centers," he says. "We don't need to set up a whole new network." State officials who have been on the road for years know which companies are ready for what level of technology. Brandon knew Faber-Castell: Lewisburg is his hometown.

By James B. Treece in Lewisburg, Tenn.

stitute shows that companies looking for technology and information tap only U.S. companies, universities, foreign companies, and private data bases before turning to the labs.

Perhaps most difficult is the issue of competition. DuPont Co. is upset that the Pentagon's Wright-Patterson lab in Dayton makes a high-tech polymer that is identical to one it sells. And companies making high-powered semiconductor lasers don't like a growing laser effort in Livermore, which they say uses taxpayer subsidies to win government contracts and commercial work. "They are killing off the industrial base by using the funds that would otherwise be available to companies like McDonnell Douglas and Spectra Diode," fumes McDonnell Douglas Corp. executive Richard W. Solarz. Livermore's program leader for advanced lasers, replies, "his team only wins when it offers clearly superior technology."

Complaints about stealing business favoring companies could derail the civilian effort. "We see a real mine field out there," says Al Narath, president of Sandia National Laboratories. As more companies get involved, "there are going to be winners and losers—and the losers could sue the labs," says a congressional aide. "It could be dicey."

PROOF WANTED. If that's not enough, Congress is considering major changes. George E. Brown Jr. (D-Calif.), chairman of the House Science, Space, and Technology Committee, has introduced a bill that could consolidate the weapons labs and convert at least one to civilian work, such as environmental technologies. Energy and Pentagon officials counter that all three labs are needed to maintain the nuclear stockpile.

What's clear is that a day of reckoning is looming. A new Congressional office of Technology Assessment reports suggests that the labs must prove they offer something better than universities, nonprofit labs, or companies. "We are shifting from an entitled existence to one based on performance," says Narath's Narath. At the very least, it means some downsizing or consolidation is "inevitable," said Energy Chief F. R. O'Leary at a recent hearing.

How much the labs will shrink depends on how useful they prove to be. Not everyone is hopeful. "The fear around here is that eventually Livermore will have a few thousand bureaucrats overseeing the work of a few scientists," says Livermore astrophysicist Hugh E. DeWitt. If that happens, these dinosaurs will become extinct.

By John Carey in Washington and Robert D. Hof in Livermore, Calif., with Sandra D. Atchison in Los Alamos, N.M.

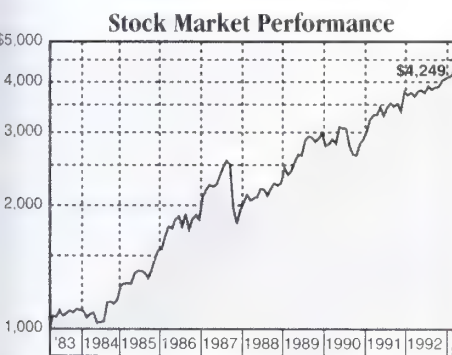
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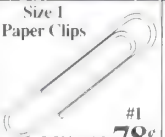
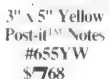
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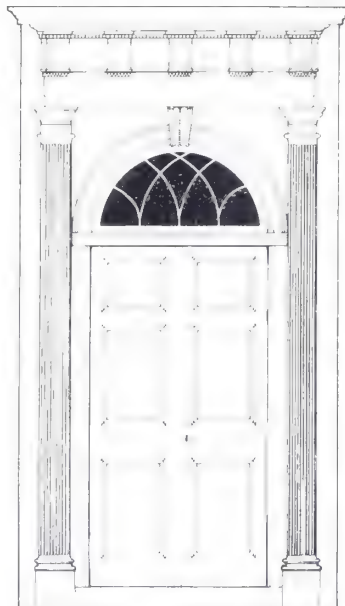
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PUMPING UP AT TEXACO

It's stoking sales with cleaner fuels and innovative minimarts



FUELING GROWTH: SCHMUDE AT A STATION WITH SNACKS

These are hardly the best of times for gasoline retailers. Sales have been stagnant for the past five years. And the slow-growth recovery isn't helping matters. Last year, the nation's service stations sold 115 billion gallons of gas, about as much as in 1989. To top it off, there's all that talk of some kind of energy tax.

Still, such somber realities haven't stopped Texaco Inc. from trying to grab a bigger piece of the U.S. gasoline market. The White Plains (N.Y.) company is spending heavily to modernize its refineries and offer cleaner-burning fuels. And to increase the retail traffic at its gas stations, Texaco is devising new consumer attractions. It's enlarging many of the 6,000 convenience stores at its stations. And it's adding fast-food franchises, such as McDonald's and Dunkin' Donuts, to many locations. "All we want to do is to get you into our stations," says Donald H. Schmudef, president of Texaco Refining & Marketing.

The strategy is showing promise. In the hotly competitive gas business, where a penny-a-gallon price difference

can cause a customer to switch brands, Texaco has been steadily building loyalty. Dead last among the six largest gas marketers five years ago, Texaco has upped its share of the U.S. gasoline market by almost 6% since 1990, moving it to fourth place. Only Chevron and Mobil did better. Exxon and Shell lost market share, as did Amoco, the nation's No. 1 gasoline retailer (chart).

BAD OLD DAYS. The emphasis on gas retailing is already having an impact on the bottom line. Operating earnings from U.S. gasoline refining and marketing could increase 11% this year,

to \$330 million, say analysts. This should help push overall earnings for Texaco up 15%, to \$1.2 billion, as sales rise by 6% to \$40 billion, estimates William L. Randol of Salomon Brothers Inc. Says Randol: "The irony is they used to be one of the less desirable companies in the industry in the refining and marketing area."

The retail push is the latest step in a broad strategy to improve Texaco's performance. Long considered a bureaucracy-bound laggard among the Big Oil set, Texaco hit big-time trouble in 1985 when it was ordered to post an \$11 billion bond while it appealed a damage award to Pennzoil Co. for meddling in its attempts to acquire Getty Oil Co. Texaco later filed for Chapter 11 bankruptcy protection. Then came raider Carl C. Icahn's unsuccessful takeover attempt. During those dark days, former Texaco Chief Executive James W. Kinnear, who retired in April, began a major overhaul. He sold off businesses and slashed

costs, cutting the payroll by almost third. He also boosted Texaco's oil extraction. Now, under new CEO Alfred DeCrane Jr., 61, Texaco is stepping its attack on the so-called downstream or retail end of the oil business.

Devising cleaner fuels has been key to that strategy. Texaco introduced item 3, a high-performance gasoline that produces fewer pollutants, in 1989. It has been a hit because of tougher emissions laws and because some drivers believe it makes their finicky new engines perform better. And the company continues to upgrade its refining system to produce cleaner fuels. Texaco and the Saudi Arabian Oil Co., which purchased a 49% stake in Texaco's downstream operations in 1988 to secure an outlet for its crude, have invested \$2.5 billion in refining technology since 1988.

Many of the improvements are paying off. For example, the company has taken the industry lead in producing a diesel fuel with low sulfur content, an advantage in markets such as California, which are setting tough environmental rules. Texaco and the Saudis also spending \$240 million to make upstream operations nearly self-sufficient in the production of oxygen, which help limit pollution from gas.

At the other end of the pipeline, Texaco is sprucing up its network of 14,000 gas stations. Texaco Star Marts, which sell snack foods and beverages, were introduced in 1991. And the company reports that the average independent station owner now pumps about 30% more gasoline, thanks in large part to the stations. So Texaco is enlarging the minimart in hopes that a wider array of snacks and such merchandise as videocassettes will lure even more passing drivers.

To persuade owners to go along with the improvements, Texaco is offering them rebates on gasoline sales. Station owners can also obtain low-interest loans

TEXACO'S NEW STRATEGY...

CONVENIENCE STORES Enlarging many of its 6,000 convenience stores to offer a wider selection of food and beverages, adding fast-food franchises, such as McDonald's and Dunkin' Donuts, to many locations.

REFINING Spending heavily to improve gasoline capability. Plans to invest \$240 million over the next five years to become self-sufficient in producing oil fuel additives needed to make cleaner-burning gasoline.

MINI-LUBES The company is adding express oil change outlets to its gas-station network, allowing customers to get an oil change in under 30 minutes.

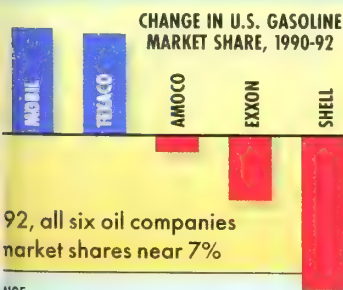
ough a \$115 million line of credit that
co has arranged. "It's much more a
ership-type feeling now," says
k Macaluso, who owns 20 stations in
Southwest.

xaco is also leasing space at its gas
ons to fast-food franchises. There
only a dozen such outlets now, but
ude foresees many more. Another
ble draw: express oil-change out-
By yearend, Texaco will have 30
-through mini-lubes that promise a
lete oil change and lube in less
30 minutes. More are planned, but
company won't provide details.

'N' SWAP. Finally, Texaco is also
g a hard look at consumers' top
ity: the price at the pump. Al-
gh prices are mostly the product of
rude-oil market, Texaco has been
g, selling, or just plain swapping
stations with other major retailers.
goal is to build retail networks near
of the company's seven U.S. refiner-
limiting delivery costs to wholesal-
can shave a penny or so off the
per gallon. Texaco recently an-
ced plans to swap 14 outlets in St.
s for 15 Amoco stations in the
y Mountain region.

xaco is gradually exporting its retail
egy overseas, too. In Europe, where
nd for cleaner gasolines has lagged
d the U.S., Texaco is slowly rolling
ts System 3 products. It opened
pe's largest gas station in Britain
November. And in Thailand, it will
ly the fast-growing Asian market
partner in a \$1.8 billion refinery.
ck at home, Schmude admits the
et will stay tough. Forecasters pre-
only a 1% increase in U.S. gasoline
volume this year. And the volume
actually fall if Washington goes
d with an energy tax. But Schmude
such harsh prospects aren't likely
ster Texaco. The key to success in
stagnant industry is better market
e, he argues. And by that measure,
Texaco star is clearly on the rise.
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IVY AND INNOVATION: B-SCHOOLS THAT TRY HARDER

The heady days are over for business schools. Applications are dropping, fewer companies are recruiting on campus, and potential students are questioning the value of the MBA.

Is the degree losing its luster? Not so fast. As competition for the best corporate jobs increases, an MBA will retain the stature it gained in the 1980s. Even though graduates can no longer expect high-paying jobs to be handed to them on silver platters, "students who go to good schools with good programs are still going to do well in the long run," says David H. Blake, dean of Southern Methodist University's B-school in Dallas.

"SOFT SKILLS." All the soul-searching under way at many business schools is fueling massive change and experimentation for the better. In an effort to make the MBA more relevant, schools are developing closer links with companies, placing greater emphasis on international business, and adding courses in "soft" skills now considered critical to success in the corporate world.

Many of the institutions leading these efforts lack the prominence of Northwestern's Kellogg School. "It's the schools that are lingering on the edge of the top 20 that are changing their curriculums more," says Robert E. Witt, dean of the B-school at the University of Texas at Austin. "They are the ones seeking to become permanently established as national players."

As part of the recently published *A Business Week Guide: The Best Business Schools* (McGraw-Hill; \$14.95), the magazine assembled a list of 20 runners-up to its 1992 Top 20 list (BW—Oct. 26). This next-best bunch, which is not ranked, was selected based on a survey of leading corporate recruiters. The accompanying table provides a snapshot of each. You'll find out the odds of getting through their doors and how much it will cost. You'll also

discover how much financial aid each school has to offer (measured on a per capita basis), and how last year's graduates fared in the job market.

CREATIVE TOUCHES. Most of these schools offer top-notch training, as good as the institutions that garner more acclaim due to their larger endowments and alumni connections. Some have been in and out of Top 20 rankings, including the University of Texas at Austin, the Univer-

sity of Rochester, and University. Others are newcomers, such as the American Graduate School of International Management (Tulane) in Glendale, Ariz., and the B-schools at Georgetown in Washington, D.C., and Tulane in New Orleans.

What sets these schools apart is their ability to develop strengths in niche areas and to offer creative touches to the traditional MBA. At the University of Rochester, a student-led initiative is for-
links with PepsiCo, F&W, and J.P. Morgan & Co. so that managers can lead classroom sessions on team building and leadership. Yale offers a degree that covers public and private-sector management.

B-schools at Emory, Atlanta and Texas A&M, Austin are pioneers in some of the more innovative approaches to management education. They have developed unique programs with Procter & Gamble to bring fresh ideas to market. Emory's "customer business development" program features a summer internship directly tied to the curriculum. The program puts students shoulder-to-shoulder with managers on customer development teams. They are working with customers to write rules for customer relationships. The program has been so successful that Motorola and Coca-Cola have signed deals with Texas, which offers an MBA at a third of Emory's cost, has added Motorola and 3M to the program.



the internship is com-
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 h a series of seminars
 faculty, corporate offi-
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 ank, dean of Emory Uni-
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bottom line? Although
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Lori Bongiorno

A CLOSER LOOK AT THE RUNNERS-UP

Schools/ Characteristics	Average GMAT score	Applicants accepted	Annual † tuition	Scholarship money per MBA	With job offers by graduation	Starting pay
AGSIM (THUNDERBIRD) Culture often compared with U.N. because of its global bent; MBAs leave fluent in foreign language	565	46%	\$14,500	\$1,269	55%*	\$43,000**
CASE WESTERN (WEATHERHEAD) Offers customized curriculum tailored to student's strengths and weaknesses; boasts executive mentors	587	55	15,900	2,082	66	44,280
EMORY Grads rate teachers highly in this general management program; launched part-time MBA program last year	615	38	17,120	4,509	69	48,560
GEORGETOWN Washington (D.C.) locale provides window on business-government relationship in globally flavored program	608	40	17,769	2,373	77	49,900
MICHIGAN STATE (BROAD) Using \$20 million gift, largest to a public B-school, to attract top faculty and students	588	25	10,783	1,211	60*	38,428**
PENN STATE (SMEAL) Program known for strengths in business logistics and business-to-business marketing	580*	28	10,176	1,953	53	44,590
PURDUE (KRANNERT) Heavy workload, with emphasis on technical and analytical training; grads take home a Master of Science	609	29	8,192	2,063	74	49,490
SMU (COX) Recent program overhaul makes this school one of the most creative, featuring student assessments and mentors	610	58	15,892	3,808	N/A	N/A
TULANE (FREEMAN) Recruiters single out school as one of best in South; hands out most scholarship funds per student	604	50	18,185	6,160	61*	42,900**
UNIV. OF ILLINOIS AT URBANA-CHAMPAIGN Open to younger applicants direct from undergrad schools; boasts one of nation's top-rated accounting programs	590	50	10,520	1,220	72	41,190
UNIV. OF IOWA Plans to move into a new \$36 million building this fall; kicks off program with riverboat cruise on Mississippi	593	39	8,100	420	57	40,900
UNIV. OF MINNESOTA (CARLSON) Strong school with new aggressive dean, seeking greater corporate support and students outside the Midwest	602	48	13,760	1,211	68	41,910
UNIV. OF NOTRE DAME Small size provides family-like atmosphere; ethics and community service are critical elements in culture	580	54	15,240	1,133	42*	41,500**
UNIV. OF PITTSBURGH (KATZ) Only first-rate MBA in U.S. packed into 11 months; average student boasts 4.5 years of work experience	603	45	20,916	2,227	69	43,790
UNIV. OF ROCHESTER (SIMON) Extremely strong finance staff; intimate environment; largest international student group	620	36	17,860	3,566	76	53,400
UNIV. OF SOUTHERN CALIFORNIA Has first-rate entrepreneurship program; 8% of grads start their own companies; strong in organizational behavior	622	35	15,730	4,706	72	52,890
UNIV. OF TEXAS AT AUSTIN Savvy dean is reinventing MBA, developing program links with such companies as P&G, Motorola, 3M	643	25	5,432	719	75	48,900
UNIV. OF WASHINGTON Offers environmental management and global business programs; students do consulting with local companies	623	31	8,850	690	59	43,730
UNIV. OF WISCONSIN AT MADISON To improve quality, school reduced MBA students by 25% since 1988; average GMATs now surpass the 600 mark	602	42	10,625	1,066	61	44,070
YALE Ivy league MBA draws exceptional students with highest GMATs of any B-school; blends public and private sectors	657	34	19,840	3,571	87	66,690

† For out-of-state residents

* BUSINESS WEEK estimate

** Data provided by school

DATA: BUSINESS WEEK, BUSINESS SCHOOLS

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A BETTER WAY TO INSURE YOUR SENIOR YEARS?

Nursing-home care can blow apart the retirement kitty you carefully tended through the decades. Nearly 30% of people over 75 stay in nursing homes for more than three years, at a yearly cost of as much as \$60,000.

You can take out long-term-care insurance, but that's hideously expensive. Under John Hancock Mutual Life Insurance's standard five-year plan, a New Yorker would pay yearly premiums of \$1,453 for a 40-year-old to \$4,018 for a 65-year-old. Or you can tap Medicaid. To get it, though, you must dissipate most of your assets—an insidious exercise known as “spend-down.”

Now, under an interesting new long-term-care policy—provided by insurers in partnership with state governments—you can avoid financial ruin. With the new “partnership policy” in New

York, the insurer pays for up to three years, then Medicaid kicks in. For New York residents, the beauty of this is that you don't have to touch your assets. (The set-up is slightly different in other states, which require you to spend-down some assets before turning to Medicaid.) Even better, partnership plans cost about a third less

than conventional coverage. How is it possible that states will permit you to milk Medicaid funds and not require you to evaporate your assets? The states, which administer Medicaid, figure that the new policy saves them money because otherwise, many people would hide their wealth and go on the Medicaid rolls early. Likewise, insurers can hold down premiums since Medicaid eliminates their outlays for patients staying more than three years.

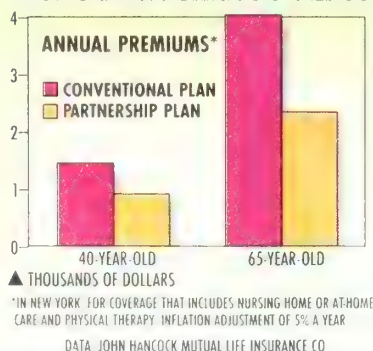
ASSETS, NOT INCOME. The new policy is available in New York and Connecticut, and soon will be in California and Indiana. Seventeen other states are examining it, and Clinton's health-reform plan may copy it. Aside from Hancock, about a dozen insurers, including Travelers and Mutual of Omaha Insurance, have signed up.

The partnership policy isn't perfect. If you buy the coverage in New York and retire to Florida, which to date doesn't offer the plan, tough luck. Another drawback is that the policy protects only your assets, not your income. So you might be asked to pay some bills from your pension or annuity checks. You do get to keep every cent of your Social Security, however.

You can buy cut-rate conventional long-term coverage, though it may not take care of such vital services as physical therapy. The partnership plan does everything. Given the pitiless climb of nursing-home expenses, any relief is worth a look.

Larry Light

LONG-TERM CARE FOR LESS



York, the insurer pays for up to three years, then Medicaid kicks in. For New York residents, the beauty of this is that you don't have to touch your assets. (The set-up is slightly different in other states, which require you to spend-down some assets before turning to Medicaid.) Even better, partnership plans cost about a third less



Travel

YOU DON'T NEED A FARE WAR TO FLY CHEAP

If you're waiting for air fares to drop further before making your travel plans, don't hold your breath. The airlines almost did themselves in slashing prices 50% last summer. This travel season, they're likely to stick with conservative cuts of 25% to 35%. While that's not bad, the cuts are off a higher base price. The savvy traveler will have to look harder for great deals this summer.

One tactic is booking in niche markets, where startup carriers are forcing prices down. USAir lowered prices around the Northeast in anticipation of being undercut by newcomers Kiwi and Skybus. Round-trip fares from Philadelphia to Pittsburgh are now \$158, almost 50% off the usual \$292 fare, says Tom Parsons, editor of *Best Fares* magazine. **BE SOCIABLE.** What's more, “niche airlines have their own little perks,” such as two-for-one sales, says Parsons. Southwest Airlines, which serves 36 major airports, has a “friends fly free” fare through Sept. 7. Off-peak flights are even cheaper. Round-trip from Columbus, Ohio, to Chicago is \$118 peak for two. At \$98 off-peak, it's only \$49 per person.

Most airlines are offering special fares for seniors, students, and children. America West sells a \$720 eight-coupon book to seniors for coast-to-coast flights. That boils down to \$90 a leg.

Then there's the alternate city ploy. Why fly from Cincinnati to Chicago for \$460 two when from Louisville, Ky., some 95 miles away, and a companion can fly Southwest to the Windy City for only \$78 for two? Head for San Francisco from Atlanta? Don't pay \$318 for a fly America West into Oakland for only \$450 for two. **COUPON HUNT.** Another way to save, suggests Randy Petersen, editor of *InsideFlyer*, which specializes in frequent flyer information, is using count coupons offered as promotions for credit cards or travel clubs. The *Entertainment/Passbook* for 1993, out by Entertainment Publications in Troy, Mich., has \$75 coupons for Continental.

International flights are big bargains, but many European carriers are offering EuroFlyer Pass coupons that let you fly around a corner or the Continent for a flat rate or discount. Fly British Airways to London, for instance, and get a pass to Athens for only \$149 or Tel Aviv for \$199, says Parsons. Frontier Air Inter lets you fly anywhere out of 30 for \$179. Hawaiian Air and Liat in the Caribbean have similar deals for would-be island hoppers. And above all, don't be worried if you miss one fare war. As Parsons says: “Chances are like good weather. Stick around and they'll come back.”

Pam F.

**HUMAN RIGHTS:
KNOW THEM, DEMAND THEM,
DEFEND THEM**



**Vienna, Austria
14-25 June 1993**

Each day violations of human rights condemn millions of men, women and children to indignity, suffering and death. Yet most rights are protected by international legal agreements. How can we improve and enforce these agreements to better people's lives?

This June, the World Conference on Human Rights in Vienna, Austria, will seek

answers to this question. The United Nations is bringing together governments and human rights advocates to assess where we stand and set international human rights policy for tomorrow.

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UNITED NATIONS

For more information, write to:
World Conference on Human Rights
Department of Public Information
Room S-1040, United Nations
New York, N.Y. 10017 USA



HUMAN RIGHTS

Leisure

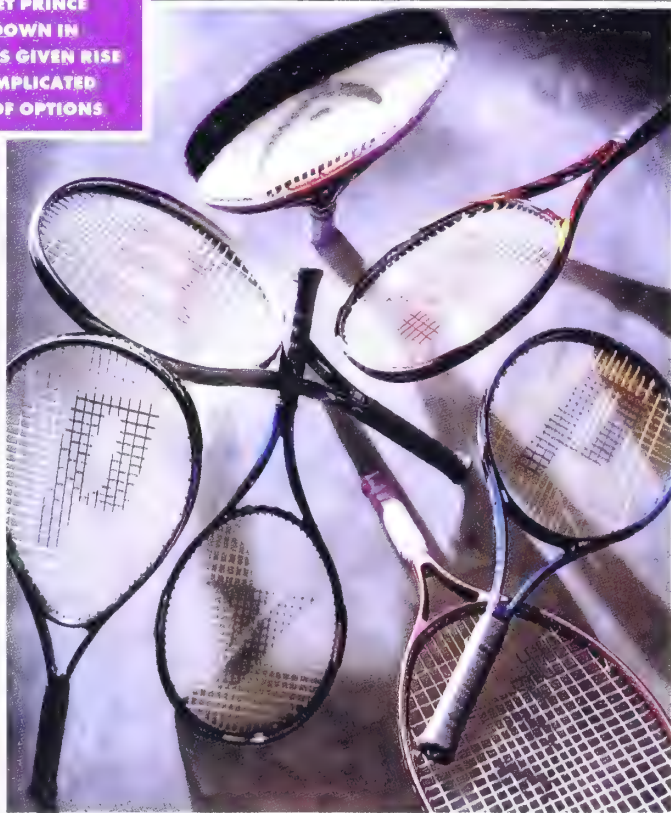
GETTING A GRIP ON HIGH-TECH TENNIS

create a racquet that reacts differently depending on the shot is the most exciting research area in racquets today, says Paul Roetert, sport science administrator for the U. S. Tennis Assn.

■ Head size. Wooden racquets measured

are also harder to maneuver.

The latest innovation is the new \$250 Prince Synergy Extender. With strings that extend into the handle, the racquet has an egg-shaped, 116-square-inch face. The idea is to have the largest sweet spot—the optimal hitting zone on the strings.



WIDER, LONGER, SWEETER: THE GAUNTLET PRINCE THREW DOWN IN 1976 HAS GIVEN RISE TO A COMPLICATED ARRAY OF OPTIONS

about 70 square inches until the monstrous, 110-square-inch Prince came along. Now, most racquets come in midsize—about 90 square inches—and oversized (110). The wider the racquet face, the more stability against off-center hits. The longer the head, the more power. But larger racquets

■ Flexibility. The stiffer the racquet, the more powerful it is. Most manufacturers offer many different "flexes" in the same line. Players with loopy, powerful strokes will want a flexible racquet, while those with low-speed, compact strokes should have a stiff model for added power. Play-

ers with arm injuries may prefer a more flexible racquet that can absorb some of the shock from hitting the ball, Roetert says.

■ Beam. Making racquets wider at the cross section makes them stiffer and increases the sweet-spot size. Widebody racquets, which took off in 1987 with the Wilson Profile, are nearly twice as wide as conventional racquets. Widebodies dominate sales, but some players claim they give too much power, and pros largely reject them. This year, several racquet lines are available with a "basic" beam.

■ Weight and balance. Graphite racquets are available in models termed lightweight (about 12.5 ounces) or superlight (about 11.5 ounces). Wilson's ultralight, 10-ounce model is paradoxically known as the "head-heavy" Hammer because most of its weight is in the head. The new weighting system not only makes the racquet more maneuverable but also moves the sweet spot to the upper part, where most players hit the ball. Because the head still has so much weight to it, the Hammer retains power and avoids the added shock and vibration of "head-light" racquets. Prince offers similar models.

Grip designs aim to reduce shock and vibration, which contribute to arm injuries. Racquet makers are also experimenting with stringing techniques that add power and stability. Mizuno has the most ambitious claim, with a stringing system on its \$45 Reactor "designed to correct off-center hits and eliminate mishits." Sound too good to be true? Mizuno promises that you can return the racquet within two weeks if it doesn't improve your accuracy 200%. You never know what high-tech wizardry can do for your game. *Amey Street*

Worth Noting

■ FINANCIAL PRIMER. Are you into *Getting Your Financial House In Order*? A new 16-page booklet free from Oppen-

heimer Funds provides the basics, including net worth, college cost, and retirement-planning worksheets. It also offers advice on topics such as holding assets in a child's name and minimizing estate taxes.

Call 800 525-7048 for a copy. **■ AIR AUCTION.** On June 14, Sotheby's in New York will auction documents, autographs, air postal covers, photos, and letters from the Kallir Collection of Aviation History. The

biggest such private assemblage, it spans the 1780s' balloon trials through the great 1930s' long-distance adventures. A highlight: Lindbergh's 1927 landing certificate at Le Bourget. Call 212 606-7385.

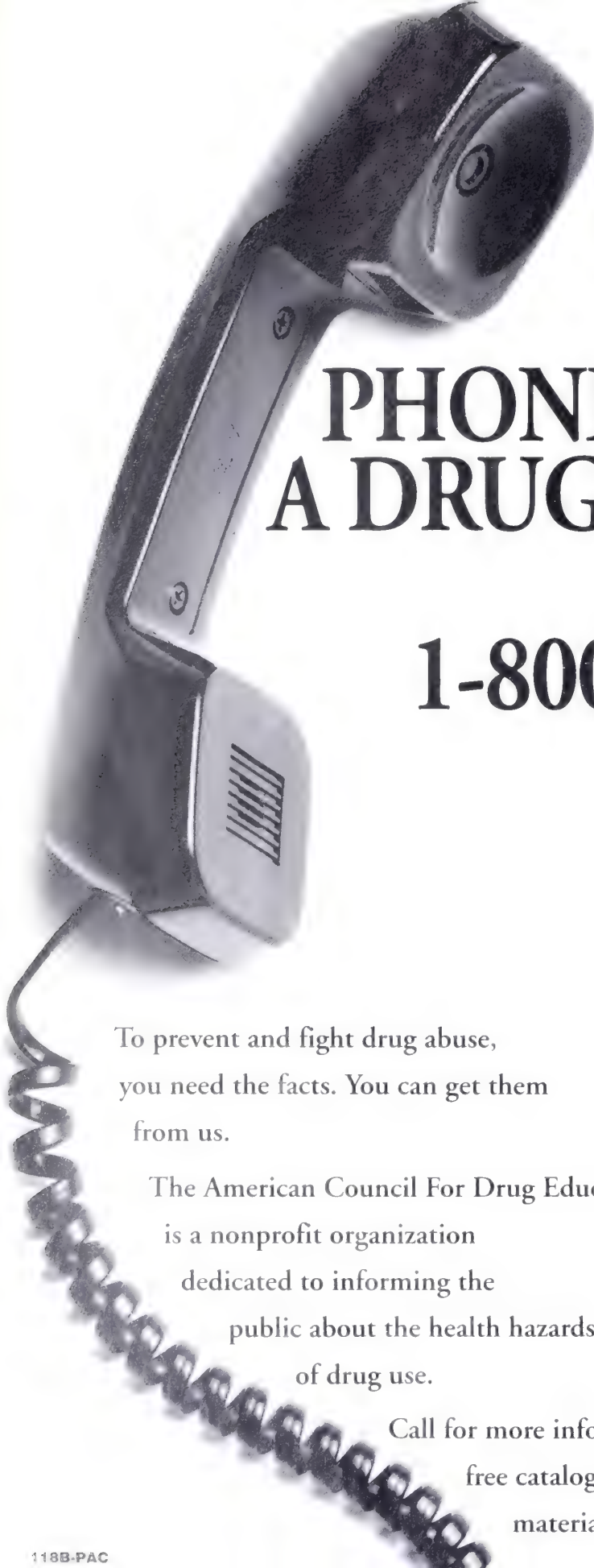
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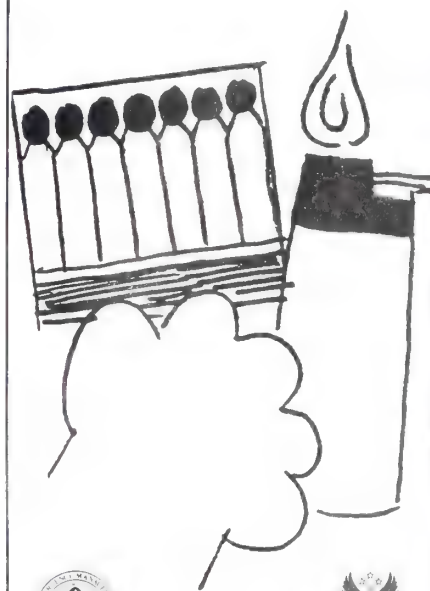
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CURIOUS KIDS SET FIRES

When a kid strikes a match, fire strikes back! Children don't realize that a simple flame can blaze out of control in mere minutes. That may be why nearly twenty-five percent of the fires that kill young children are started by children themselves playing with fire.

Don't let fire strike your family. Always keep matches and lighters far out of the reach of children.



A message from your local fire department, this publication, and the U.S. Fire Administration

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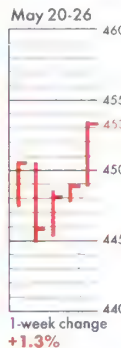
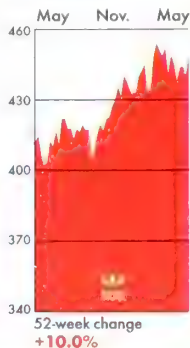
BusinessWeek
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Investment Figures of the Week

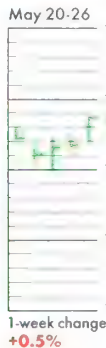
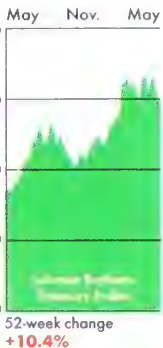
STOCKS

Encouraging week in the U.S. market. The Dow Jones index average closed on May 24, an all-time high, as the S&P 500 failed to surpass its March record. Stocks were upward by the bond market, which was spurred by a strong bid in the auction for five-year Treasury notes. But despite gains in the market, investor bullishness has not been excessive. The put-call ratio, a gauge of options-buying sentiment, remained in neutral territory.

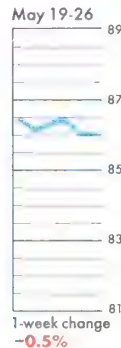
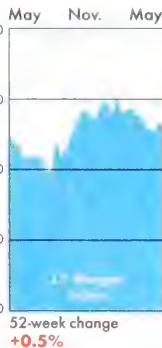
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS

	Latest	% change Week	% change 52-week
INDUSTRIALS	3540.2	1.1	5.0
COMPANIES (S&P MidCap Index)	167.8	2.3	17.7
COMPANIES (Russell 2000)	232.1	1.2	17.9
COMPANIES (Russell 3000)	259.5	1.4	11.8

STOCKS

	Latest	% change (local currency) Week	% change 52-week
(FINANCIAL TIMES 100)	2846.9	1.0	5.5
(NIKKEI INDEX)	20,896.0	2.5	17.2
(TSE COMPOSITE)	3865.2	1.4	14.3

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	3.10%	3.03%	3.79%
30-YEAR TREASURY BOND YIELD	6.92%	6.97%	7.90%
S&P 500 DIVIDEND YIELD	2.78%	2.83%	2.99%
S&P 500 PRICE/EARNINGS RATIO	22.9	22.6	25.2

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	441.5	440.6	Positive
Stocks above 26-week moving average	56.9%	55.9%	Negative
Speculative sentiment: Put/call ratio	0.35	0.38	Neutral
Insider sentiment: Vickers sell/buy ratio	2.46	2.61	Neutral

INDUSTRY GROUPS

WEEK LEADERS

	% change 4-week	% change 52-week
MANAGEMENT	19.2	-21.2
CONDUCTORS	15.7	100.5
UMENTATION	15.3	6.8
PUTER SOFTWARE AND SERVICES	15.2	43.8
LS AND MOTELS	15.1	62.7

WEEK LAGGARDS

	% change 4-week	% change 52-week
WORKING	-6.7	-22.4
NSURANCE	-5.3	31.7
RIC POWER	-2.4	10.4
TH-CARE SERVICES	-2.4	-30.7
SPORTATION SERVICES	-2.2	11.6

Strongest stock in group

NATIONAL MEDICAL ENTERPRISES	32.1	-35.7	9 1/4
TEXAS INSTRUMENTS	19.4	76.7	64 1/2
HEWLETT-PACKARD	17.8	7.2	83 3/8
LOTUS DEVELOPMENT	41.7	17.2	34
PROMUS	30.9	231.3	47 5/8

Weakest stock in group

CONSOLIDATED FREIGHTWAYS	-7.3	2.4	15 7/8
CAPITAL HOLDING	-11.2	31.0	35 1/8
PSI RESOURCES	-7.9	31.3	22
AMGEN	-6.9	-39.7	35 1/2
FEDERAL EXPRESS	-3.9	15.0	49

BRIDGE INFORMATION SYSTEMS INC.

MUTUAL FUNDS

RS

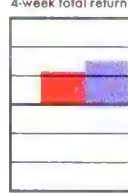
	%
4-week total return	
GTON STRATEGIC INVESTMENTS	44.6
D SERVICES GOLD SHARES	25.1
ISON PRECIOUS METALS A	23.9
52-week total return	
FE-STATE STREET GLOBAL ENERGY	60.4
GROWTH	54.9
ITY SELECT AMERICAN GOLD	51.2

LAGGARDS

	%
4-week total return	
STEADMAN AMERICAN INDUSTRY	-8.7
STEADMAN OCEANOGRAPHIC TECHNOLOGY	-6.0
FIDELITY SELECT INSURANCE	-5.0
52-week total return	
PROGRESSIVE AGGRESSIVE GROWTH	-27.4
FINANCIAL STRATEGIC ENVIRONMENTAL	-24.5
G.T. LATIN AMERICA GROWTH A	-17.1

S&P 500

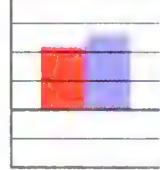
4-week total return



MORNINGSTAR INC.

Average fund

52-week total return



RELATIVE PORTFOLIOS

Amounts
at the present
\$10,000
and one year ago
portfolio

Figures indicate
total returns

Foreign stocks
\$12,180
+2.21%

Treasury bonds
\$11,934
+0.31%

U.S. stocks
\$11,208
+1.94%

Gold
\$11,177
+2.64%

Money market fund
\$10,743
+0.05%

1. This page is as of market close Wednesday, May 26, 1993, unless otherwise indicated. Funds include S&P 500 companies only; performance and share prices are as of market close.

May 25. Mutual fund returns are as of May 21. Relative portfolios are valued as of May 25. A more detailed explanation of this page is available on request.

THE NEW FEDERALISM: TONIC FOR WORLD GROWTH

Compare the rapid growth of China with the sputtering economy in Russia, and a lesson leaps out: Don't try democracy before you get growth. Gorbachev, pundits are saying, never should have called for *glasnost* before *perestroika*. Instead, he should have pushed hard to restructure the economy, then allowed more openness. (Never mind that that wasn't politically feasible.) China's communist rulers, the experts say, were more astute about fostering development: Focus on incentives for industry, bribe the population into submission with rising incomes, and democracy be damned.

That's a popular analysis of the difference between the Chinese and the Russian experiences, but it's the wrong one. What really made the difference in China was decentralization and the stirrings of a primitive form of federalism, and what could yet pull Russia out of its economic morass is a similar strategy of federalism (page 82). Best of all, federalism and democracy aren't mutually exclusive. In fact, they have a long history of coexisting in both Britain and the U.S.—and producing fabulously strong economic growth.

Around the world, federalism is a hot topic these days. From the North American Free Trade Agreement to a unified Europe, plans abound for countries to federate with each other to strengthen trade and economic ties. Within countries, too, federalist fever is catching: Italy's Lombard League is pushing a federalist platform, and advocates of a revival of federalism in the U.S. are becoming more vocal.

In today's world, the notion has a special appeal: What better way to balance the interests of different regions and groups, and at the same time bring them together for the common good? Of course, federalism is not a panacea. Unless the center dictates otherwise, it may allow strong regions to become stronger and poor ones poorer. And important social goals usually must be mandated by the center, as was the case with civil rights in the U.S. But federalism, at least as envisioned by Alexander Hamilton and James Madison, was a powerful curb on unwieldy big government and, especially, on the inimical rule of tyrants. Achieving that end is as worthy an objective today as it was two centuries ago.

HOW TO GET INDUSTRY TO CLEAN UP ON ITS OWN

It was an afterthought when Congress passed it, but a provision tacked on to the 1986 Superfund law is proving to be one of the most effective environmental laws on the books. It doesn't tell industry to slash emissions to a certain level. Nor does it force companies to use specific technology. The law just requires manufacturers to make inventories of the toxic chemicals they keep on hand and to tell the public how much of the stuff they release into the environment.

But the disclosures are having far more impact than anyone imagined. The Environmental Protection Agency is ex-

pected to soon release data showing that, because of the companies have voluntarily cut their emissions. Accounting gimmicks may inflate the cuts, but the record is remarkable.

The government is getting results without the kind of strict, command-and-control regulations it has imposed on business in the past. Indeed, companies have remarkable freedom to cut emissions any way they want. Often they're doing so by reducing the amount of chemicals used at the front end of production—the best way to cut pollution.

Why are companies reducing pollution on their own? The reason is the bad publicity that large toxic emissions create. Companies don't want to be bad neighbors. Nor do they want reputations as polluters that would make it easier for opponents to thwart efforts to expand to new sites. Pressure from community activists also plays a role. But the fact that companies are moving ahead without a specific government mandate to do so. If the EPA is going to impose other regulations to cut pollution, the disclosure strategy may be a model to follow.

BALLADUR'S CHANCE TO RESTORE FRENCH GLORY

When he rode to power two months ago on a wave of resentment against his socialist predecessor, French Prime Minister Edouard Balladur pledged to create an economic policy that would stand as "a French example" to the rest of the world. His plan, announced on May 26, to privatize 21 state-owned companies, including Renault, Air France, and computer giant Gr Bull, is a major step in that direction (page 46).

France has danced with the issue of privatization back in 1986-88. Balladur's plan appears to go further. There will be no ceiling on foreign investment in former state-owned companies and no mercy for previously pampered sectors, such as high-tech and computers. This is the way France has to be in a brutally competitive world, and the French have long hesitated to recognize it.

Balladur certainly faces an uphill climb to privatize \$60 billion worth of state-owned assets in a climate of investor interest. As he proceeds, he'll have to face a growing social and political burden of French unemployment. France's jobs record, the worst in the Organization for Economic Cooperation & Development since the mid-1970s, isn't getting any better. The country's 3.1 million jobless, 10% of the work force, could vault to 3.5 million by yearend.

As Balladur moves to cut budget deficits, privatize government-owned corporations, and create jobs, the exigencies of politics will sorely tempt him to forget his pledge to build a new French model of economic probity. But European leaders in Germany and Britain tired and listless, and Europe adrift, Balladur has a chance to put France in the lead on the Continent. In the midst of a recession, he has no choice but to start modestly. But if he also manages to cure the root causes of France's economic underperformance, he will be on his way to building the lasting model promised. If implemented, Balladur's conservative program may move France back to center stage in Europe.

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THE TECHNOLOGY PAYOFF

Business spent \$1 trillion on information technology in the last decade—but showed little gain in efficiency. Now, productivity is finally bursting out, thanks to better software and a reorganization of work itself.

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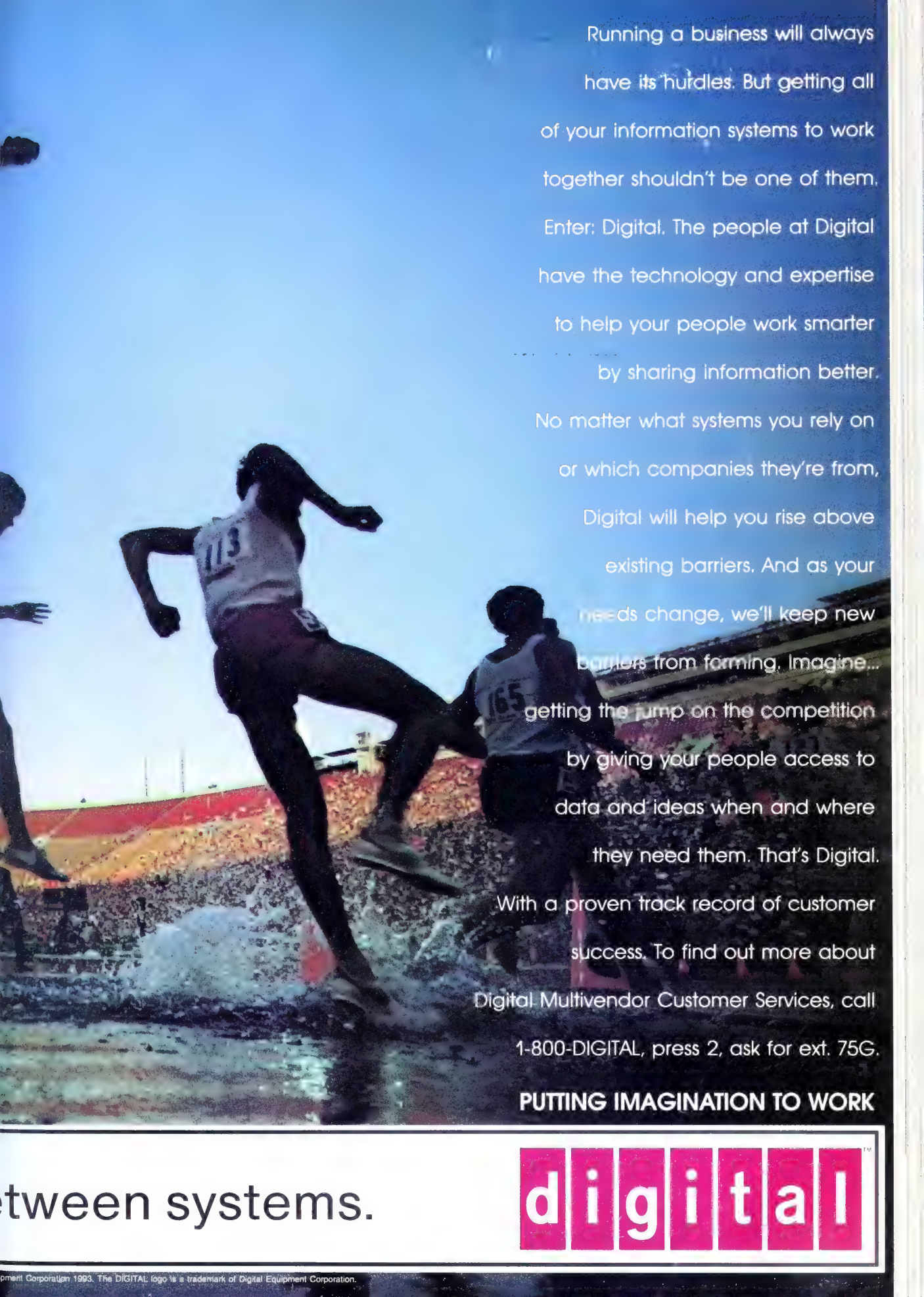
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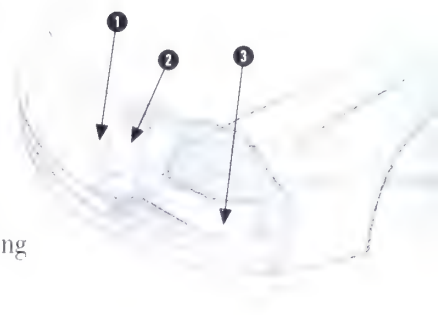
The Coupe's distinctive nose is shaped by a scratch-resistant urethane fascia (1). Just beneath



Aluminum Reinforced Elastomer If You Think It's Hard To Say

that stands a barrier of energy-absorbing foam (2). And for extra measure, all this is backed by an aluminum reinforcement (3).

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Lexus. In fact, you'll find plastic right down to the rhodium

every inch of the Coupe is monolith three-way converter.

well constructed — from

customer modified thermo-





PRODUCTIVITY PUSH: NEW MANAGEMENT STRUCTURES AND INFORMATION TECHNOLOGY MAY LEAD U.S. COMPANIES INTO AN ERA OF GROWTH

Special Report

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U.S. business is finally reaping the rewards of its massive investment in information technology—and productivity is booming. But the real breakthrough is in the sweeping reorganization of work. For companies that make the smartest changes, it could mean a head start in a new Industrial Revolution

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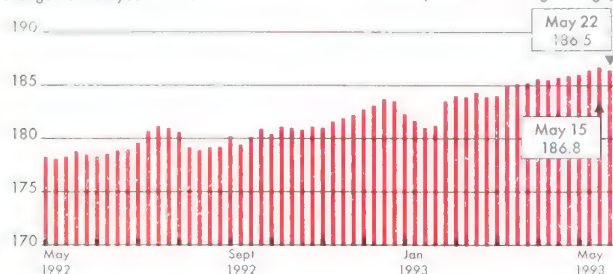
Information technology's payoff
Invest in Japan. Trade will follow

BusinessWeek Index

PRODUCTION

Change from last week: -0.2%
Change from last year: 4.2%

1967=100 (four-week moving average)

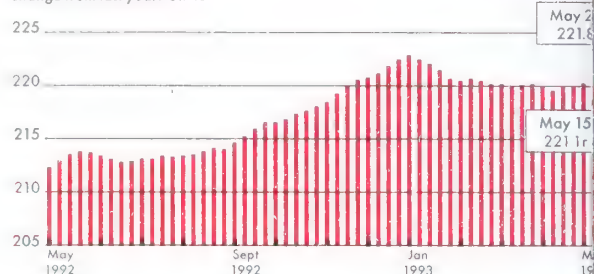


The production index fell slightly during the week ended May 22, as the factory sector continues to struggle. On a seasonally adjusted basis, output of trucks, electric power, paperboard, and lumber all declined. Steel, autos, coal, and paper production, plus rail-freight traffic, increased for the week, while crude-oil refining was unchanged. Before calculation of the four-week moving average, the index dropped to 185.2, from 186.2.

BW production index copyright 1993 by McGraw-Hill Inc.

LEADING

Change from last week: 0.3%
Change from last year: 3.7%



The leading index increased during the week ended May 22 to its highest since early this year. Higher stock prices and faster growth in M2 helped lift the index. Higher bond yields and deteriorating growth in materials prices and estate loans hint at trouble ahead. The number of business failures was unchanged. Before calculation of the four-week moving average, the index fell to 222.3, 223.8 in the previous week.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (5/29) thous. of net tons	1,902	1,905#	6.9
AUTOS (5/29) units	130,016	142,673r#	16.9
TRUCKS (5/29) units	98,253	104,349r#	28.6
ELECTRIC POWER (5/29) millions of kilowatt-hours	54,152	53,228#	5.2
CRUDE-OIL REFINING (5/29) thous. of bbl./day	13,979	13,733#	1.3
COAL (5/22) thous. of net tons	18,428#	18,142	-2.1
PAPERBOARD (5/22) thous. of tons	802.4#	827.3r	-1.4
PAPER (5/22) thous. of tons	769.0#	736.0r	3.1
LUMBER (5/22) millions of ft.	461.4#	469.9	-8.0
RAIL FREIGHT (5/22) billions of ton-miles	21.4#	21.2	2.9

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWPA¹, SFPA², Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (6/2)	1.07	1.08	1.27
GERMAN MARK (6/2)	1.59	1.62	1.60
BRITISH POUND (6/2)	1.54	1.55	1.83
FRENCH FRANC (6/2)	5.38	5.47	5.37
CANADIAN DOLLAR (6/2)	1.27	1.26	1.20
SWISS FRANC (6/2)	1.42	1.45	1.46
MEXICAN PESO (6/2) ³	3.123	3.127	3.092

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (6/2) \$/troy oz.	369.000	374.500	9.0
STEEL SCRAP (6/1) #1 heavy, \$/ton	106.50	106.50	15.8
FOODSTUFFS (6/1) index, 1967=100	201.8	205.7	-0.1
COPPER (5/29) ¢/lb.	87.6	88.5	-17.0
ALUMINUM (5/29) ¢/lb.	52.5	52.5	-13.2
WHEAT (5/29) #2 hard, \$/bu.	3.55	3.57	-8.7
COTTON (5/29) strict low middling 1-1/16 in., ¢/lb.	56.30	58.40	3.7

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (5/28) S&P 500	450.58	444.94	
CORPORATE BOND YIELD, Aaa (5/28)	7.46%	7.48%	
INDUSTRIAL MATERIALS PRICES (5/28)	95.6	95.4	
BUSINESS FAILURES (5/21)	382	380	
REAL ESTATE LOANS (5/19) billions	\$395.7	\$397.7r	
MONEY SUPPLY, M2 (5/17) billions	\$3,471.2	\$3,468.8r	
INITIAL CLAIMS, UNEMPLOYMENT (5/15) thous.	340	337	

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Street (failures of large companies), Federal Reserve Board, Labor Dept. CIBCIR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
PERSONAL INCOME (Apr.) annual rate, billions	\$5,262.0	\$5,261.0r	
CONSUMER SPENDING (Apr.) billions	\$4,282.7	\$4,239.2r	
CONSTR. SPENDING (Apr.) annual rate, billions	\$444.4	\$446.2r	
12 LEADING INDICATORS COMPOSITE (Apr.) index	152.0	151.9r	

Sources: Commerce Dept., Census Bureau

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (5/17)	\$1,068.0	\$1,065.2r	
BANKS' BUSINESS LOANS (5/19)	275.1	275.7	
FREE RESERVES (5/26)	1,077	686r	
NONFINANCIAL COMMERCIAL PAPER (5/19)	159.0	158.2	

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed in two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (6/1)	3.33%	3.21%	3.33%
PRIME (6/2)	6.00	6.00	6.00%
COMMERCIAL PAPER 3-MONTH (6/1)	3.23	3.19	3.23%
CERTIFICATES OF DEPOSIT 3-MONTH (6/2)	3.17	3.15	3.17%
EURODOLLAR 3-MONTH (5/28)	3.20	3.13	3.20%

Sources: Federal Reserve Board, First Boston

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WHEN WILL ACADEME LEARN A FEW MANAGEMENT LESSONS?

As a former financial manager at an Ivy League university, I was especially interested in "Time to prune the ivy" (Economics, May 24). The initial catalyst for the escalation of college costs was the oil crisis of the early 1970s. Heating is a significant item for colleges and universities. Eventually, they recovered those cost increases and discovered a very beneficial phenomenon—namely, that people were willing to accept double-digit [fee] increases ad infinitum. In most cases, colleges' customers are parents—not students—since parents end up with most of the liability. What parents will not nail themselves to the mortgage wall, if there is any chance their kid can get into Harvard?

But wait. There is another major force at work here that I will call the corporate/university complex. In Corporate America today, many job descriptions carry the phrase "bachelor's degree required." Want to get ahead, kid? Unless those magic initials—BA, BS, or BE—are on your resumé, you'll never get past the personnel department. So why not keep raising the ante? Mommy and Daddy will come up with it one way or another.

David G. Barlow
 North Grafton, Mass.

Near the end of the story, you state that universities are expanding their ties to industry to fund research because "the return on academic research is a lush 28% per year."

Return to whom? To industry, very likely—but to the universities, too? Not a chance. The overhead charged on funded research in a university is typically 70%. In a lean, mean small business, where I now work, after 20 years in academe, the overhead is about 100%, with an expected, modest profit of 15% to 20%. How does a top-heavy college bureaucracy end up with a net gain based on only a 70% overhead? The answer is, it doesn't. The extra money to support the research activities comes out of education, either directly or indirectly.

The truth is that most of the research

does not need doing in the first place. Most faculty would be making a more useful contribution, to their students and to the country, by doing what they are paid to do first and foremost—teach.

Douglas L. Marriott
 South Lebanon, Ohio

While an unrelenting search for comparative advantage and an unflagging emphasis on cutting costs is always welcome, there are extremely positive facets of our education system that must be recognized.

Higher education in the U.S. is the best in the world. Productive research is conducted here with consequent benefits for all of civilization. Professors and students recognize this, and all the world's best and brightest vote with their feet and flow to our shores, many remaining permanently to advance their discipline. Higher education provides a tremendous positive flow to our balance of payments.

While your points are valid, we should recognize the unique contribution of the higher education system in the U.S. and beware of throwing the baby out with the bath water.

Finn M.W. Caspersen
 Chairman of the Board
 Beneficial Corp.
 Wilmington, Del.

REENGINEERING HAS PLENTY OF BUZZWORDS—AND LITTLE ELSE

I was interested in "Reengineering: Beyond the buzzword" (Books, May 24), your review of Michael Hammer's and James Champy's *Reengineering the Corporation: A Manifesto for Business Revolution*. After finishing John A. Byrne's review, however, I wondered whether he and I had read the same text. The authors state: "A methodology for conducting a reengineering effort, the orchestration of the change campaign, etc., are issues that go beyond the scope of a single book." Does this mean that there is no legitimate, seminal text to which those who wish to learn about the unembellished nature, structure, design, and implications of business reengineering can turn? Not so.

A balanced, well-reasoned, well-researched, well-presented text on the sub-

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ARE YOU CUSTOMERIZED?

- 1. Do you have as many customers as you want?**
☐ Yes ☐ No

Can a bottom line be too healthy? Of course not. And neither can a growth-oriented company have too many customers. They're the engine that generates revenue.

- 2. Are your customers as loyal as you want?**
☐ Yes ☐ No

It's one thing to gain customers. It's another to keep them. The strength of your business depends largely upon your ability to sustain a relationship with customers.

- 3. Do you generate as much business from each customer as you want?**
☐ Yes ☐ No

A critical component of business growth is increased sales content. To maximize each business opportunity, you need a way to leverage your entire organization—to bring it totally to bear at the point of customer contact.

- 4. Do you really know what your customers want?**
☐ Yes ☐ No

Are you alert to *every* product your customers could use? *Every* service that might interest them? *Every* transaction they're prepared to make? *Every* sale they'd allow you to clinch? Are you thoroughly tapped into your market?

- 5. Does your entire organization know what your customers want?**
☐ Yes ☐ No

A customer orientation has limited value unless it's embedded in the very fiber of an enterprise—at all levels, and at every place that directly or indirectly impacts the customer.

- 6. Is your information strategy focused on helping you hear what customers and markets are trying to tell you?**
☐ Yes ☐ No

The next best thing to reading your customers' minds is listening to what they're saying. But unless you're constantly tuned in to customers' signals, you're missing messages that could guide you to greater results for your business.

- 7. Can your organization respond quickly to what customers and markets are telling you?**
☐ Yes ☐ No

When the flow lines of your information systems are not within your customers' reach, you won't always sense when opportunity knocks. But even if you do, getting the message is not enough. If you can't reply rapidly to market cues with information products and services, revenue opportunities are lost.

- 8. Does your information strategy enable you to proactively deliver information to your customers?**
☐ Yes ☐ No

Many business plans underestimate the power of information to build customer relationships. But imagine the advantage of an information technology strategy that transforms information into customer-generating, revenue-generating fuel.

- 9. Are the full capabilities of your organization accessible to your customers at all your field locations?**
☐ Yes ☐ No

An office. A branch. A retail site. To a customer that's your company. One small part of the whole. Which is why you need to leverage your entire organization by extending its capabilities to each point of customer contact.

- 10. Does your information strategy reflect the bottom-line importance of customer service?**
☐ Yes ☐ No

Business is built on customers. Without them there is no bottom line. Government is also built on customers, the public. And whether you're in the business of commerce or the business of government, no objective of an information strategy is more fundamental than enhanced customer service.

The Bottom Line. *If you answered No to any of these questions, you're not yet customized. But you might well agree that this simple test suggests the enormous advantages of becoming customized. And as the leader at customizing business and government, Unisys will work with you to provide the answers you need.*

There's a word
so powerful it answers all
the questions on this test.

Customerize.

This test poses tough questions about customer service. So does the real business environment. That's why we're introducing an answer which transforms your customer service into a competitive advantage: CUSTOMERIZE.

When you CUSTOMERIZE, you put the customer at the heart of your world, not at the periphery. By embedding customer service objectives within your information strategy, Unisys will help you use the full capabilities of your enterprise to the points of customer contact—the points where business is won or lost. We'll help enhance your ability to receive information from your customers and communicate information to them, creating an information flow which leads to

bottom-line results. As customer service rises to a higher level, so will your ability to make new customers, build your relationships with them, and generate revenue.

How to begin? The perfect starting place is our CUSTOMERIZESM assessment. Experienced Unisys business consultants will team with you to evaluate the information flow between you and your customers, identify any barriers to communication, and design technology solutions tied to achievable business goals. We'll bring a standards-based, vendor-independent commitment to the assign-

ment. And we'll apply our industry-leading expertise at ensuring that an information strategy pays off, not merely shows off.

cus-tom-er-ize \ kūs'-tə-mə-rīze' \ *vt*
1: to make a company more responsive to its customers and better able to attract new ones **2:** to customize an organization's information strategy, e.g., to extend systems capabilities to field locations and other points of customer contact and support **3:** what Unisys Corporation does for a growing roster of companies, and government agencies, worldwide **syn** see CUSTOMER SERVICE, COMPETITIVE EDGE, BUSINESS-CRITICAL SOLUTIONS, REVENUE GENERATION

Call us at 1-800-874-8647, ext. 17. Ask for our CUSTOMERIZE assessment and a complimentary CUSTOMERIZE Information Kit. And ask how we can help your organization earn high marks in an increasingly customer-driven era.

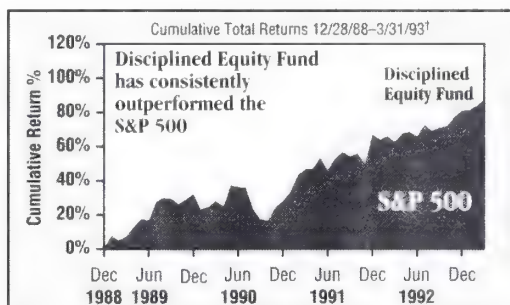
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Readers Report

CORRECTIONS & CLARIFICATIONS

"Quietly closing in on Alzheimer's" (Science & Technology, May 3) credited the wrong scientists with discovering the genetic defect that, it was later found, causes the body to produce too much amyloid protein, a factor in Alzheimer's. The team that discovered the defect was headed by Mike Mulvihill of the University of South Florida.

ject preceded Hammer's and Champ's work. It is *Process Innovation: Reengineering Work Through Information Technology*, by Thomas H. Davenport, published by Harvard Business School Press. True, Davenport's book may cause readers to stop and think, but that is because it is profound, stimulating, professionally rather than terminologically iconoclastic, and nonsuperficial.

John Carroll
Pittsburgh

WHAT TO DO ABOUT CUBA —WITH OR WITHOUT CASTRO

In "Getting ready for Cuba after Castro" (Economic Viewpoint, May 1993), Rudi Dornbusch's thesis is that Fidel Castro Ruz is through. He reasons that the Havana regime cannot last, now that Russian subsidies are gone.

Cuba is substantially an agrarian society. Agrarian societies can last a long time without the trappings of modern industrialization. If the estimated 40% to 50% drop in gross national product during 1991-92 didn't sink the government, then the gradually improving growth may not likely to provide a renewed push for ousting Castro. The U.S. needs, therefore, to extend the same diplomatic relationships we extend to most countries with which we differ ideologically.

C. L. Gilchrist
Westford, MA

CALIFORNIA IS STILL PLENTY HOT

In "Hot growth companies" (Cover Story, May 24), it was interesting to note that, of the 100 best small growth companies in the U.S. listed in *BUSINESS WEEK*, 23—almost a quarter—are headquartered in California. Not bad for a state that many people would like to believe is in a state of decline.

William E. Webb
Bakersfield, CA

Letters to the Editor should be sent to Readers Report, Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax (212) 512-4721. All letters must include an address and daytime and evening phone numbers. We reserve the right to edit letters for clarity and space.

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an Agenda for Business Leadership in Asia

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Delta Air Lines, Inc.
\$1,500,000,000
Agent/Revolving Credit Facility

PHH Corporation
In Finance Co. \$1,000,000,000
Sole Provider/Mortgage Securities Facility

Revlon Consumer Products, Inc.
\$1,000,000,000
Agent/Manager/Revolving Credit Facility

Alamo Rent A Car, Inc.
\$80,000,000
Sole Provider/Asset Securitization

Burlington Industries
\$1,000,000,000
Managing Agent/Term Loan And Revolving Credit Facility/Placements

Acadia Partners, L.P.
\$300,000,000
Sole Provider/Interest Rate Swaps

Glenayre Technologies, Inc.
(Formerly NW Group)
Acquired Glenayre Electronics Manufacturing A Unit Of Glenayre Electronics Ltd.
Investment Initiation A Unit Of Glenayre Ltd.

T. L. James and Company, Inc.
Sole Agent/Officer, Of A Unit Of James & St. Mary Land & Exploration Company
Transaction Initiator/Advisor In Negotiations

Tenneco Inc.
\$75,000,000
Sole Provider/Interest Rate Swap

Borg Warner Security Corporation
\$225,000,000
Co-Arranger, Co-Underwriter/Reducing Revolving Bank Credit

Intergraph Corporation
\$50,000,000
Sole Provider/Revolving Credit Facility

Vehicle Services of America
\$150,000,000
Arranger, Placement Agent/Commercial Rate Swap

Circuit City Stores, Inc.
\$300,000,000
Structured And Arranged/Remarketed Certificates Of Participation Asset Securitization

Fina Oil and Chemical Company
\$275,000,000
Agent/Revolving Credit Facility

LDSS Communications, Inc.
\$12,000,000
Financial Advisor/Securitization/Forward Rate

Tyco Toys, Inc.
\$275,000,000
Agent/Revolving Credit And Term Loan Facility

Western Gas Resources, Inc.
\$100,000,000
Sole Provider/Interest Rate Swap

Fisher-Price, Inc.
\$25,000,000
Sole Provider/Reverse Swap

Petroleos de Venezuela, S.A.
\$79,000,000
Sole Provider/Structured Trade Credit Facility

Heilig-Meyers Company
\$1,000,000,000
Structured And Arranged/Placement Agent/Variable Rate Demand Note

Koch Gas Production Company
\$1,000,000,000
Agent/Revolving Credit Facility

Big B, Inc.
\$50,000,000
Arranger, Placement Agent/Commercial Rate Swap

Living Centers of America, Inc.
\$10,000,000
Agent/Revolving Credit Facility/Asset Securitization

Associates Corporation Of North America
\$250,000,000
Agent/Revolving Credit Facility

Thomaston Mills, Inc.
\$15,000,000
Placement Agent/Private Placement

Trinity Industries, Inc.
\$2,000,000,000
Sole Provider/Interest Rate Swap

W. R. Grace & Company
Provider/Treasury Management Services

GDE Systems Inc.
\$53,000,000
Co Agent, Senior Bank Financing

Thor-Io, Inc.
\$5,000,000
Placement And Remarketing Agent/Variable Rate Demand Note

RJR Nabisco, Inc.
\$2,000,000,000
Sole Provider/Interest Rate Swaps

Health Management Associates, Inc.
\$150,000,000
Agent/Revolving Credit Facility

Ingram Industries Inc.
Provider/Treasury Management Services

Sterling, Inc.
\$90,000,000
Advisor/Asset Securitization Advisory

Standard Commercial Tobacco Corporation
\$200,000,000
Agent/Revolving Credit Facility

Irvin Field & Kenneth Field Productions, Inc.
\$50,000,000
Sole Provider/Revolving Credit And Term Loan Facility

Lamar Advertising Company
\$23,000,000
Sole Provider/Interest Rate Swap & Forward Rate Agreement

Union Texas Petroleum
\$650,000,000
Agent/Arranger/Revolving Credit Facility

Budco, Inc.
Agent/Revolving Credit And Term Loan Facility

Why NationsBank Is Corporate America's Fastest-Growing Principal Bank.

Marmon Corporation
\$12,000,000
Structured And Arranged/Placement Of UK Placements

Foxmeyer Corporation
\$1,000,000,000
Co-Agent/Revolving Credit And Term Loan Facility

Data General Corporation
\$1,000,000,000
Provider/Treasury Management Services

The Associated Group
\$50,000,000
Agent/Revolving Credit Facility

Florida Power & Light Company
Provider/Treasury Management Services

Alamo Rent A Car, Inc.
\$150,000,000
Agent/Revolving Credit Facility

Living Centers of America, Inc.
\$20,000,000
Sole Provider/Interest Rate Swap

Florida Marlins
Provider/Treasury Management Services

Jones Intercable, Inc.
\$1,000,000,000
Agent/Revolving Credit Facility

Nerco, Inc.
\$1,000,000,000
Provider/Treasury Management Services

ARA Services
Provider/Treasury Management Services

Western Gas Resources, Inc.
\$1,000,000,000
Agent/Revolving Credit And Term Loan Facility

E. D. Bullard Company, Inc.
\$5,000,000
Placement And Remarketing Agent/Variable Rate Demand Note

Big B, Inc.
\$4,000,000
Placement And Remarketing Agent/Variable Rate Demand Note

Hotel Corporation of The Bahamas
\$15,000,000
Agent/Revolving Credit And Term Loan Facility

First USA Inc.
\$100,000,000
Sole Provider/Capital Markets Transactions

TPI Restaurants Inc.
\$55,000,000
Agent/Revolving Credit And Term Loan Facility

Marcus Cable of Delaware and Maryland, L.P.
\$28,000,000
Agent/Revolving Credit Facility

Selee Holding Company
Formed To Acquire Assets Of Selee Corporation/Selee Bank Of America
Transaction Initiator/Advisor In Negotiations

RJR Nabisco, Inc.
\$100,000,000
Agent/Leader Of Credit Facility

ConAgra, Inc.
Provider/Treasury Management Services

Tech Data Corporation
\$95,000,000
Agent/Revolving Credit Facility

The Oklahoma Publishing Company
Agent/Revolving Credit And Term Loan Facility

Heilig-Meyers Company
\$50,000,000
Agent/Revolving Credit Facility

Clear Channel! Communication
\$150,000,000
Agent/Revolving Credit And Term Loan Facility

One Price Clothing Stores, Inc.
\$1,000,000,000
Agent/Working Capital Facility And Letter Of Credit

Steuart Petroleum Company
\$65,000,000
Agent/Revolving Credit And Term Loan Facility

Atmos Energy Corporation
\$50,000,000
Agent/Revolving Credit Facility

Oakwood Homes Corporation
\$1,000,000,000
Sole Provider/Treasury Forward Rate Agreement

DeBordieu Property Owners Buyout Group
Limited Partnership Formed For Acquisition Of DeBordieu, Georgia
Transaction Initiator/Advisor In Negotiations

RJR Nabisco, Inc.
\$200,000,000
Sole Provider/Interest Rate Cap

Western Gas Resources, Inc.
Financial Advisor/Capital Structure Alternatives Advice

Budget Rent-A-Car of Atlanta
\$20,000,000
Arranger/Placement Agent/Structured Asset Securitization

Williamson-Dickie Manufacturing Company
\$75,000,000
Agent/Revolving Credit And Term Loan Facility

A prominent national research firm states that NationsBank made the greatest gains in the number of principal corporate relationships in 1992. Listed are a few of the reasons for this achievement in partners

Energy Enterprises, Inc.	\$9,000,000	Agent/Revolving Credit Facility
Kays	\$8,000,000	Agent/Term Loan
Corporation	\$7,000,000	Agent/Revolving Credit Facility
Corporation	\$6,000,000	Agent/Revolving Credit Facility
Industries, Inc.	\$5,000,000	Agent/Revolving Credit And Term Facility
Communications, Inc.	\$4,000,000	Agent/Revolving Credit Facility
tex Corporation	\$3,000,000	Agent/Revolving Credit And Term Facility
co Inc.	\$2,000,000	Provider/Acquisition Term Loan
ong Corporation	\$1,000,000	Provider/Treasury Management Services
rt Enterprises, Inc.	\$1,000,000	Agent/Revolving Credit And Term Facility
PLC	\$1,000,000	Agent/Manager/Revolving Credit Facility
tex Corporation	\$1,000,000	Agent/Remortgage And Remarketing Agent/ Variable Rate Demand Note
r International	\$1,000,000	Provider/Interest Rate Swap
s Corporation	\$1,000,000	Provider/Interest Rate Swap
Cable of San Angelo, L.P.	\$1,000,000	Agent/Revolving Credit Facility
al Freight Lines Inc.	\$1,000,000	Agent/Advisor/Revolving Credit And Term Facility
er Aerospace, Inc.	\$1,000,000	Agent/Revolving Credit And Term Facility
inta Motor Inns, Inc.	\$1,000,000	Provider/Interest Rate Swap
n Consumer Products, Inc.	\$1,000,000	Provider/Interest Rate Swap
Men's Wearhouse, Inc.	\$1,000,000	Agent/Revolving Credit And Term Facility
ord Corporation	\$1,000,000	Agent/Revolving Credit And Term Facility
s Corporation	\$1,000,000	Agent/Senior Revolving Credit Facility
GEIGY Corporation	\$1,000,000	Provider/Treasury Management Services

Nypco, Inc.
Placement And Remarketing Agent/
Variable-Rate Demand Note

Worthen Banking Corporation
\$15,000,000
Agent/Term Loans

Chatham Manufacturing Company
Sold to Chatham Manufacturing
Acquisition Corp., New Corporation
Transaction Initiator, Advisor In
Negotiations

TW Services, Inc.
\$2,000,000
Co-Agent, Revolving Credit And Term
Loan Facility

Georgia Power Company
Provider/Treasury Management Services

Moorco International Inc.
\$50,000,000
Agent, Arranger: Revolving Credit And
Term Loan Facility

Paging Network, Inc.
\$20,000,000
Co Agent/Revolving Credit Facility

Comp USA, Inc.
\$50,000,000
Agent/Revolving Credit Facility

Union Underwear Company, Inc.
\$7,600,000
Placement And Remarketing Agent/
Variable-Rate Demand Note

VISHAY International
\$7,000,000
Co-Agent, Revolving Credit And Term
Loan Facility

Hubbell, Incorporated
\$40,000,000
Agent/Term Loans

Santa Fe Energy Resources, Inc.
\$195,000,000
Co-Agent, Revolving Credit And Term
Loan Facility

Waste Management, Inc.
Provider/Treasury Management Services

The Cato Corporation
\$30,000,000
Agent, Revolving Credit Facility

QVC Network, Inc.
Advisor: Financial Advisory

**HEALTHSOUTH
Rehabilitation Corporation**
\$190,000,000
Agent, Revolving Credit Facility

**Heritage Hall Holding
Limited Partnership**
\$13,700,000
Placement And Remarketing Agent/
Variable-Rate Demand Note

**Coca-Cola Bottling Company of
Northeast Arkansas, Inc.**
\$30,000,000
Agent/Revolving Credit Facility

Circuit City Stores, Inc.
\$55,000,000
Sole Provider, Receivables Purchasing
Facility Through EFC

American Freightways Corporation
\$50,000,000
Agent/Revolving Credit Facility

Manetta Mills, Inc.
Acquisition/AM Acquisition Corp.
Acquisition/Financial Facility
Acquisition/Financial Facility
Placement Initiator, Advisor In
Negotiations

Elcor Corporation
\$36,750,000
Agent/Revolving Credit Facility

J.T.A. Factoring, Inc.
A Subsidiary Of Accord Financial Corporation
Initiated, Assisted In Negotiations, Advisor

Dr Pepper/Seven-Up Companies, Inc.
\$875,000,000
Managing Agent, Revolving Credit And
Trade Loan Facility

Peerless Cascade Plastics, Inc.
\$8,600,000
Placement And Revolving Credit, Asset
Variable Rate Demand Note

Fisher-Price, Inc.
\$175,000,000
Agent/Revolving Credit Facility

AGES Group
\$192,500,000
Agent/Revolving Credit Facility

Living Centers of America, Inc.
Provider Treasury Management Services

Ingram Industries Inc.
\$200,000,000
Administrative Agent, Revolving Credit
Facility

Piedmont Holding, Inc.
\$10,500,000
Placement Agent/Private Placement

**Coca-Cola
Bottling Company, Consolidated**
\$2,000,000,000
Sole Provider/Interest Rate Swap

Sprint Corporation
Provider/Treasury Management Services

Hershey Foods Corporation
Provider Treasury Management Services

Crystal Palace Hotel Corporation
\$25,000,000
Asset/Trade/Revolving Credit Facility
Loan Facility

La Quinta Motor Inns, Inc.
Agent/Revolving Credit Facility

Trinity Industries Leasing Company
\$40,000,000
Sole Provider/Leasing Facility

Shaw Industries, Inc.
Provider Treasury Management Services

Viacom International, Inc.
\$50,000,000
Sole Provider/Trade Facility

McKinnon Broadcasting Company
\$3,000,000
Agent/Revolving Credit Facility

James River Coal Company
Trade/Revolving Credit Facility

**Piedmont
Natural Gas Company, Inc.**
\$24,000,000
Sole Provider/Asset Securitization

Bay Area Renal Stone Center
Sold Interest To T-T Medical, Inc.
Asset

**Coca-Cola
Bottling Company, Consolidated**
\$1,000,000,000
Agent/Revolving Credit Facility

Dole Food Company, Inc.
\$1,100,000,000
Co-agent: Revolving Credit Facility

Plains Petroleum Company
\$60,000,000
Agent: Revolving Credit And Term Loan Facility

Exide Electronics Corporation
\$75,000,000
Co Agent: Revolving Credit And Term Loan Facility

Keystone, Inc.
\$500,000,000
Sole Provider: Interest Rate Swap

Morris Family Corporation
\$5,000,000
Arranger: Structured Sale And Leaseback Facility

Chevron Corporation
Provider: Treasury Management Services

Reliance Electric Company
\$600,000,000
Co Agent: Revolving Credit And Term Loan Facility

Alamo Rent A Car, Inc.
\$375,000,000
Agent: Revolving Credit Facility

ARCO
\$187,500,000
Administrative Placement Agent: ESOL Note Placement

Schneider National Leasing
\$200,000,000
Agent: Revolving Credit Facility

Devon Energy Corporation
\$16,000,000
Agent: Revolving Credit Facility

Century Telephone
\$57,000,000
Agent: Revolving Credit Facility

FBA Properties, Inc.
\$20,000,000
Administrative Placement Agent: Group Interest Conversion Paper Program

CTX Mortgage Corporation
\$300,000,000
Administrative Agent: Revolving Mortgage And Term Facility

Imac Corporation
\$5,000,000
Placement Agent: Revolving Credit Facility
Variable Rate Demand Note

La Quinta Motor Inns, Inc.
Placement And Remarketing Agent
Variable Rate Demand Note

W. R. Balsal Company
\$10,000,000
Private Shareholders
Financial Advisor, Assisted In Negotiations

ALLTEL Corporation
\$300,000,000
Agent: Revolving Credit Facility

BLOCKBUSTER Entertainment Corporation
Provider: Treasury Management Services

Zions Bancorp
\$55,000,000
Sole Provider: Asset Securitization

Capital Centre Group
\$14,000,000
Placement And Remarketing Agent
Variable Rate Demand Note

American Maize-Products Company
\$25,000,000
Agent:

NationsBank

EXPLODING THE GENE MYTH

By Ruth Hubbard and Elijah Wald
Beacon • 206pp • \$24

THE WORD IS GENE NOT GENIE

Every few weeks, it seems, a major newspaper's front page trumpets the discovery of a new gene "for" some ill that plagues us. Alcoholism. Schizophrenia. Cystic fibrosis. Heart disease. Most recently: colon cancer.

After a few paragraphs breathlessly predicting that a scourge will soon vanish, the caveats come: More research is needed; for now, all we'll have is a nifty test to confirm that you have or may develop an incurable disease. Deeper still is some scientist's admission that the disease is probably more complicated than one gene out of whack. Still, we discuss such stories optimistically. Someone usually suggests that soon we'll be able to just go get our genes fixed.

According to Ruth Hubbard, Harvard University professor emerita of biology, such stories, and many people's unques-

tioning acceptance of them, are a symptom of "geneticization." Suggesting that every illness or behavioral snag can be reduced to an errant piece of DNA in an organism as complex as the human body is scientific absurdity, she argues.

Worse, this genetic focus tends to absolve society of its responsibility to affect health and behavior through public policy and environmental protection. Hubbard's *Exploding the Gene Myth*, co-authored with writer Elijah Wald, provides a much-needed counterweight to the unearned confidence many reports about genetic research today convey.

The book's strength is its cogent explanation of enough biology and genetic theory to help lay people interpret news about genetic findings more realistically. Hubbard doesn't suggest that the research is bad. Rather, academe, govern-

ment, and industry inflate their findings' import to attract funding or investment, or to serve other agendas such as providing law enforcement with new tools—albeit ones of dubious value.

The book shows that the language we've come to use to describe genes gives them too much significance: Scientists speak of single genes "for" behaviors, diseases, and tendencies, whereas in fact, thousands of genes operating in concert and affected by outside agents produce our looks, our behavior, our health. Geneticization, says Hubbard, can bring fatalism and surrender: the belief that our capacities are encoded in our genes can prevent us from taking available steps to change ourselves and the conditions of our lives." Presumably to read DNA like tea leaves could stigmatize a new class of "healthy ill" who are not sick but who test positive for genetic flaws or susceptibilities. They could be denied jobs, insurance, and other rights.

The unsavory whiff of eugenics hangs in the air, says Hubbard. For centuries, she notes, scientists have been pressured to find genetic culprits for unwanted traits. From the antebellum South, for example, came the bogus invention of "drapetomania," a suppos-



The Theatre.



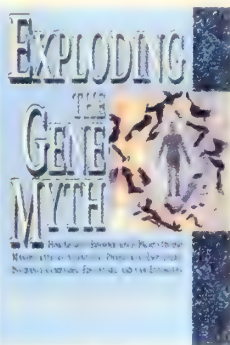
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editary trait that gave
e slaves an irresistible
e to flee their masters.
Hubbard sees twisted
e, too, in more recent
earch, such as a 1991
ly of identical twins
ering from depression.
coln Eaves, a behav-
geneticist, found that
st of the chronically
ressed women in the
ly had endured more
amatic events—rape,
ult, being fired—than
er women. He conclud-
that their depressive
ook, probably geneti-
y determined, made
om troubles likelier.

orts Hubbard: "If Dr. Eaves had
nd that football players frequently
fractures, would he have suggested
brittle bones make people play foot-
?" Being raped or otherwise trauma-
d, she notes, could depress anyone.
Hubbard attacks the Human Genome
ject, the multibillion-dollar effort to
o the DNA of a prototype human be-
as technically and conceptually
red. The reason, she claims, is that
ecular biologists today wield undue
equence in research, in comparison with

A cogent view of
why society should be
more skeptical about
the "miracles" of
genetic research



structural and systemic biologists, who
study entire organisms and their envi-
ronments. Much as history books used
to play up the "great man" theory and
ignore social fabric, she argues, so, too,
has biology been skewed by molecular
biology and the "great molecule," DNA.

Hubbard's book becomes frustrating
in its vague, naive discussion of indus-
try's actions and motives in the gene
business. Why, she asks, doesn't any re-
search paid for by the public get trans-
lated into great treatments sold at cost,

treating all differences as something to
be "cured" with drastic measures, is not
merely an unattainable ideal. It disre-
gards the pain and anguish of many ill
and disabled people.

Still, Hubbard's articulate call for the
proverbial grain of salt in interpreting
genetic information is a service. Genetic
research is valuable and exciting—but
there's more to life than DNA.

BY JOAN O'C. HAMILTON

*San Francisco correspondent Hamilton
covers biotechnology.*



The Director.

The Home Theatre's impressive performance comes from a Motorola 68HC05 microcontroller. It not only controls the basic functions; it also incorporates the first on-chip Closed Captioning decoder in the industry. From televisions to computers, the world's most innovated products are powered by Motorola.



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CLINTON'S STUDENT-LOAN PLAN DESERVES AN 'F'

BY GARY S. BECKER



Instead of removing banks as middlemen, make them share more of the pain of defaults. And young people should not be told that helping the homeless is more beneficial than contributing to U.S. productivity

President Clinton has proposed changes in the way the federal government subsidizes the education of college students. He wants to eliminate banks from the lending process, compensate students who perform what is deemed community service, and give students another option on how to pay back their debt. These ideas are misguided in every major respect.

To cut out middlemen expenses, the President would bypass banks by having the federal government make loans directly to students. The House Education & Labor Committee has already approved this part of the package. But if governments are better at lending than the banking sector, they should take over lending to companies for investments and to families for housing and cars. Despite many well-publicized failures of private banks, government agencies do a much worse job of lending money, which is why the worldwide movement toward privatization highlights banking and other financial activities. I do not know of one federal lending program—including those to small businesses and farmers—that gets high marks for its efficiency.

Banks can provide a valuable service in screening student borrowers and monitoring repayments. But under the present system of student loans, banks have no incentive to perform these functions, since the federal government covers all bank losses on student loans. This explains why the default rate is a disturbingly high 10% and why many more borrowers are in arrears. The savings and loan scandal has shown what happens when banks are relieved by government guarantees of their responsibility for unwise lending decisions. Thus encouraged to make extremely risky loans, they reap all the gains from profitable ones while taxpayers foot the bill for the mistakes.

YOUNG BEGINNERS. The solution is not to eliminate banks and their experience but to require them to bear a larger share of the cost of their bad student loans. Banks covet the student loan business. When the default rate on a bank's student loans increases, it should have to pay a higher insurance premium.

In return for two years of community service after students finish their education, Clinton wants to forgive up to \$10,000 in loans that help pay for college or vocational training. Qualifying jobs are to be selected by state governors and other officials from the categories of education, the environment, public safety, and human services. To be sure, these four categories all have problems, but they are not going to be solved by giving politically determined jobs to young beginners who

are trying to qualify for tuition grants. Why these categories? What about other creditable activities and private employment by profit-making companies?

The President's plan sends a dubious message to young people. It rests upon the proposition that it is more beneficial to spend time helping to build housing for the homeless than one frequently mentioned example of community service—than to contribute to the productivity of the U.S. economy by becoming better engineers, computer programmers, architects, etc. This is a dangerous message for the economy at any time, but especially with the U.S.'s capacity to compete in world markets is being severely tested.

Student borrowers from the federal government now pay fixed interest rates on their debt after completing their education. The President would keep this as an option, but wants to offer students another one where those who earn more pay higher rates.

FIXED OR VARIABLE. The new option is designed to balance larger payments by high earners against smaller ones by low earners so that the average earner would pay about the same interest rate as under the present system. But the desirable objective of insuring payment on student debt against uncertainty about future earnings isn't likely to be attained because of a phenomenon that economists term self-selection. Students who expect to go into law, business, and other well-paying fields will tend to choose the fixed interest-rate option, under which they pay a lower rate. Those who expect jobs that pay little will select the option whereby people with low earnings pay back less—the variable option. Since much of the borrowing is by professionals and graduate students, most loan applicants know whether they are preparing for fields that pay well or poorly.

Either fixed or variable repayment rates are manageable, but not both. On the whole, the existing approach is probably better because the many students who know they will be in fields that pay a lot will not participate when rates are tied to earnings. When the University in the 1970s made repayments depend on earnings, it found that students going into law, business, and medicine generally chose not to borrow from Yale.

The President's proposed reform of the student-loan program may be good politics but its call for community service, saving middlemen expenses, and an option that allows borrowers who earn less to pay back less, from the standpoint of the nation as a whole, it won't be as good a way to reform federal assistance to students.

GARY S. BECKER, THE 1992 NOBEL LAUREATE, TEACHES AT THE UNIVERSITY OF CHICAGO AND IS A FELLOW OF THE HOOVER INSTITUTION

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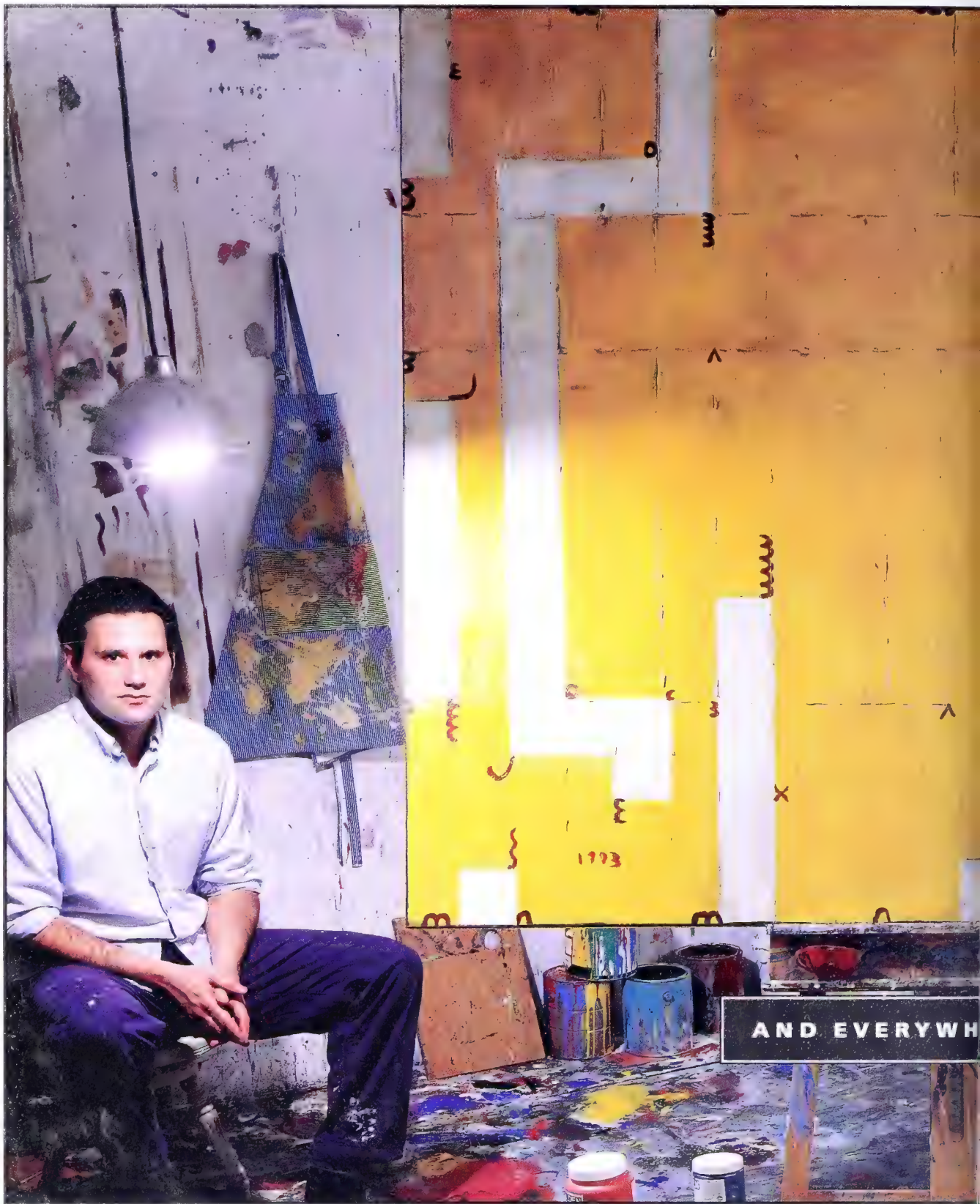
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BY GENE KORETZ

U.S. INDUSTRY MAY BE MEAN, BUT IT ALSO LOOKS TOO LEAN

Aided by restructuring and a weak dollar since the mid-1980s, U.S. industry has honed its competitiveness to a fine edge. Now, however, fears are growing that a failure to expand the nation's industrial base could spark an early recurrence of inflation and hamper American manufacturers' future participation in fast-growing world markets.

In a stunning downward revision of earlier estimates, the Federal Reserve has erased some 3.7% of U.S. industrial capacity in one fell swoop—slashing capacity growth from 2.4% a year from 1987 through 1992 to a lackluster 1.7%. As a result, operating rates now look a lot higher than they did only a month

limits are likely to start raising prices significantly, causing the inflation-wary Fed to step hard on the monetary brakes. Over the longer run, the lack of cost-efficient capacity could seriously hurt American manufacturers' ability to maintain market share when the global economy turns up sometime next year.

Such risks would fall, says Roach, if U.S. industry were to start investing in capacity expansion, as well as equipment replacement. But that isn't happening yet. In fact, the annual rate of capacity growth so far in 1993 has been only 1.5%—half that of the early 1980s.

TURKEY HAS THE EARMARKS OF A NEW TIGER

Over the past decade, Turkey has been the fastest-growing member of the Organization for Economic Cooperation & Development, averaging better than a 5% annual rate. What's more, says Columbia University economist Dani Rodrik, it has the potential of emulating the even faster growth of the East Asian Tigers in the future.

In a recent issue of *International Economic Insights*, published by the Institute for International Economics, Rodrik notes that only a dozen years ago, a bankrupt Turkish economy was wracked by triple-digit inflation and shortages of basic commodities. But economic reforms in the 1980s, including financial deregulation and reduced controls on imports and currency convertibility, turned the economy around.

From less than \$3 billion in 1980, Turkey's merchandise exports soared to \$15 billion in 1992, with manufactured goods ranging from clothing to steel accounting for 80% of the total. Although imports hit \$23 billion last year, much of the gap has been made up by rising tourism receipts and money sent home by Turkish workers abroad. Aided by heavy capital inflows, investment has flourished, exceeding 22% of gross domestic product for six straight years.

To achieve sustained faster growth, Rodrik warns, Turkey will have to curtail its reliance on heavy government deficit spending and quell inflation that has averaged 60% to 70% a year for half a decade. If it can find the political will to take such painful steps, he says, its future seems assured. Turkey's entrepreneurial zeal, diversified export-oriented economy, and strategic position linking Europe, the Middle East, and former Soviet Central Asian republics all suggest that it is "an economic miracle waiting to happen."

WHY THE FED MAY REDEFINE THE MONEY SUPPLY

It's no secret that banks have responded to the competition from brokered firms and other financial institutions by offering mutual funds to the public by offering such funds themselves to their depositors. What's underscored by a recent Federal Reserve survey of 56 of the nation's largest banks, however, is the extent to which the banks are now committed to this new line of business.

Most of the banks surveyed now keep a full-time mutual-fund sales staff at more than 20% of their branches. Nearly all offer both proprietary funds (managed by the banks themselves) and nonproprietary funds. And most say that at least one-third to two-thirds of their sales are funded by their own deposits.

Many experts blame the sluggish growth of the money supply in recent years on the growing tendency of savers to shift money out of bank certificates of deposit, which are included in the money supply, into mutual funds, which are not. With so many banks now abetting the process, says economist Robert V. DiClemente of Salomon Brothers Inc., "the Fed may be approaching a point where it will have to redefine the money supply to restore its usefulness as a link to economic activity."

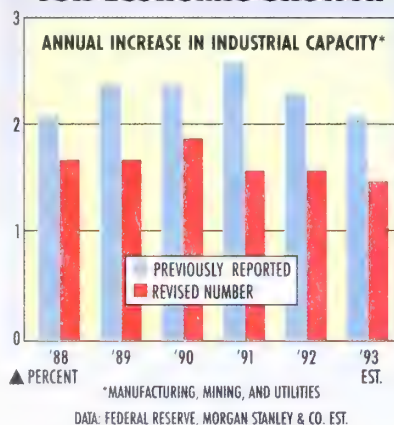
A SURPRISING FINDING ON NEW-BUSINESS MORTALITY RATES

The common view is that four out of five new U.S. businesses fail within five years of their startup. Yet roughly 400,000 entrepreneurs take the plunge each year. Why do they bother?

The answer, says economist Bruce Kirckhoff of the New Jersey Institute of Technology, is that their chances of surviving are far greater than reported. In a new study, Kirckhoff traces the fortunes of some 814,000 businesses started in 1977 and 1978 over the following eight years. His findings indicate that only half survived in one form or another, 28% under their original owners and 26% under new owners. An additional 28% were shuttered voluntarily, with only 18% actually failed in the sense that they left outstanding liabilities.

In other words, says Kirckhoff, "entrepreneurs aren't stupid. They look around and realize their chances of success are far better than the experts claim."

A WEAKER PICTURE FOR ECONOMIC GROWTH



ago—81.4% for industry as a whole in April, vs. 79.9%, and 86.1% for mining, compared with 81.8%.

"The new risk," says economist Stephen S. Roach of Morgan Stanley & Co., "is that Smokestack America may have gone too far in hollowing out its industrial base in order to achieve short-term efficiency gains."

Indeed, Roach points out that a number of U.S. industries are already running uncomfortably close to the 85% operating rate that has historically been associated with significant upward pressure on prices. These include primary processing industries such as metals, paper, industrial chemicals, lumber, petroleum, and textiles, as well as producers of machinery and furniture.

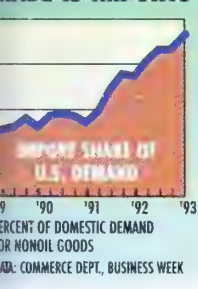
The dangers inherent in this situation are twofold. Over the short run, industries that approach their capacity

THE HUNGER FOR IMPORTS MAY STARVE FUTURE GROWTH

The U.S. economy has a trade problem. No, it's not the result of weaker exports in a sluggish world economy. And no, it's not because of imports from Japan. The problem is America's ever-growing preference for foreign-made products, generally. This craving has reached proportions that clearly impeded the recovery's progress in the first quarter, and it may well be a key factor holding back U.S. manufacturing.

The most striking feature of the Commerce Dept.'s downward revision of first-quarter gross domestic product, from growth of 1.8% at an annual rate to only 0.9%, was the dramatic widening in the trade deficit. The gap is now calculated to have grown to \$71.1 billion from \$49 billion in the fourth quarter. That widening alone lopped nearly 2 percentage points off economic growth last quarter, and imports accounted for all of the deterioration.

THE PROBLEM WITH TRADE IS IMPORTS



American businesses account for most of the speedup. They are buying an increasing share of their industrial supplies and capital goods from abroad. Imports of such goods now account for nearly 12% of U.S. spending on nonoil goods, up from 8.5% in 1988. By contrast, imports of consumer goods, including autos, snag a 9.6% share, up slightly from 8.9%.

During the past year, imports of construction materials went up sharply, as are foreign-made computers and accessories, semiconductors, and industrial engines. This trend is in part, a by-product of the rapid growth in foreign investment in the U.S. in recent years. And in general, the high import share will remain a problem.

DON'T BLAME THIS PIKE ON JAPAN

The interesting footnote to all this is that Japanese imports have played a small role. To be sure, the U.S. trade deficit with Japan is a big chunk of the overall U.S. trade gap, and access to Japanese markets remains difficult. But while goods from Japan account for 20% of U.S. nonoil imports, during the past two years they have

contributed only about 12% of the growth in U.S. imports.

Greater-than-proportionate contributions have come from Canada, Mexico, and China. Taken together, those three countries account for 30% of total U.S. imports, but since the first quarter of 1991, they have contributed slightly more than half of U.S. import growth.

Japan seems destined to contribute even less to U.S. import growth because a weaker dollar will lift the price of Japanese imports in the U.S. Since January, the dollar has lost some 16% of its value against the Japanese yen. The dollar fell through 107 yen on May 28, and now currency traders are setting their sights even lower, to 105 yen or less, for the dollar's next support level.

Traders seem convinced that the Clinton Administration wants a weak dollar as a means to shrink its trade gap with Japan and as bargaining leverage to force greater access to Japanese markets. Recent mixed signals on dollar policy from U.S. Treasury officials only reinforce traders' beliefs (page 28).

Strong intervention attempts to stabilize the dollar-yen exchange rate by the Federal Reserve and the Bank of Japan on May 27 and 28 failed to halt the dollar's slide. The currency markets are not likely to take such efforts seriously unless they see that the U.S. is sufficiently concerned about dollar weakness to tighten monetary policy. For now, though, a U.S. rate hike looks unlikely.

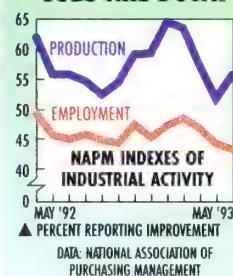
FACTORIES START TO SPUTTER AGAIN

No doubt, heavy import competition is weighing on U.S. manufacturers, and that is one more problem that factories have to deal with in this historically weak recovery. Once again, the industrial sector is losing steam. In April, factory orders were stagnant, shipments fell, and the order backlog started to shrink again.

The weakness in new demand contributed to the slack showing in the government's index of leading indicators. The index—which is designed to foretell the economy's movements—rose just 0.1% in April. That small gain hardly recouped the 1% drop in the index in March.

Conditions in the factory sector did not improve much in May, according to the National Association of Purchasing Management (chart). The NAPM's index of industrial activity rose to 51.1%, but that's not much better than April's 49.7%. The May reading was barely above the

MAY OUTPUT IS UP, JOBS ARE DOWN



Business Outlook

50% mark, the dividing line between expansion and contraction in manufacturing. Although orders and output rebounded, the bounce was not very high, and employment continued to contract, says the NAPM.

In coming months, however, manufacturers are likely to get a lift from stronger demand. In particular, consumer spending this quarter is on track to improve its skimpy 1.2% annual pace in the first quarter.

Also, some retracement of last quarter's widening of the trade deficit is likely. First-quarter import growth was far above its recent trend, and the pace of exports was far below. An outright decrease in the deficit for this quarter seems likely, and that will offset some of the drain on real GDP growth expected to result from a slower rate of inventory growth.

Companies managed to make money last quarter, but the quality of those profits was low. Rising inventory values, partly the result of the inventory surge, accounted for nearly all of the first-quarter gain in book profits. Earnings before taxes rose \$11.2 billion. However, after adjusting for inventory inflation and the differences between tax and replacement-cost accounting, operating profits rose a scant \$3.7 billion.

Profits in the second quarter should get a lift from faster economic growth, but one source of profit growth may well be waning. Profit margins, in a steady rise since mid-1991, fell in the first quarter. The drop was the steepest since the recession began more than two years ago (chart). Although margins remain high, reflecting past cost-cutting, the first-quarter decline suggests that companies will have to depend more on price and volume increases for higher earnings in the quarters ahead.

The outlook for profits—as well as for overall GDP growth—continues to rest with consumers. For April, at least, the news is good. Consumer spending rose 1%, or a healthy 0.7% after inflation. The April advance meant that real consumer purchases started this quarter 2% above their first-quarter average, at an annual rate.

Will consumers maintain this momentum? The best sign comes from the housing sector. Sales of new single-family homes skyrocketed by 22.7% in April, to an annual rate of 751,000—the highest pace in six years (chart).

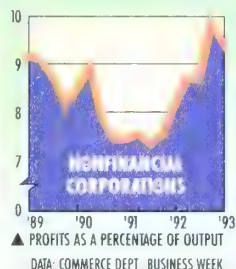
The surge in home buying means that many more consumers will be shopping for appliances, furniture, and other home goods. And because the inventory of unsold homes is extremely low, homebuilding should pick up as well, providing some lift to GDP growth this summer.

However, the dark cloud over consumers is poor income growth. Personal income was flat in April and fell by 0.4% when adjusted for taxes and inflation. Real aftertax earnings began the quarter below the first-quarter level. And the savings rate dropped 4.3% in April, from 5.3% in March.

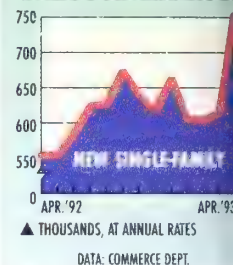
Consumer spending can't outpace pay gains for very long. So as always, job growth remains the key to filling consumers' wallets and raising the economy's pulse.

The rebound in consumer demand, though, will inevitably spur more import growth. That inflow will not only hamper economic growth this year. It also complicates trade policy. But instead of blaming Japan for the widening U.S. trade gap, trade negotiators in Washington should probably point a finger at Americans' growing appetite for imports as well. To paraphrase Shakespeare: The fault is not in our trading partners, but in ourselves.

PROFIT MARGINS LOSE GROUND



HOME SALES GO THROUGH THE ROOF



THE WEEK AHEAD

INSTALLMENT CREDIT

Monday, June 7

Consumers probably piled on about \$3 billion in new debt during April, according to the median forecast of economists surveyed by MMS International, a division of McGraw-Hill Inc. That's suggested by the strong gain in retail shopping in April, especially for cars. Installment debt grew by a fairly rapid clip in the first quarter, rising by a total of \$11.1 billion. In March alone, debt increased by \$3.4 billion.

CAPITAL SPENDING

Thursday, June 10, 8:30 a.m.

The Commerce Dept.'s spring survey of spending plans for new plant and equip-

ment will probably show little change in budget forecasts for the rest of 1993. In the winter, businesses reported that they expect to increase their capital spending by about 6.6% this year, after a mere 0.8% advance in 1992. Most of the spending will go for equipment.

RETAIL SALES

Friday, June 11, 8:30 a.m.

The MMS survey forecasts a 0.7% gain in retail sales in May. Sales surged 1.2% in April after tumbling 0.8% in March. Spending on cars and light trucks probably led the May increase. Excluding cars, sales likely were up by 0.4% in May, after a 0.7% gain in April. Department-store sales, which jumped 2.2% in April, probably slacked off in May, ac-

cording to the *Johnson Redbook Report*, published by brokerage firm Lynce Jones & Ryan Inc.

PRODUCER PRICE INDEX

Friday, June 11, 8:30 a.m.

Producer prices of finished goods probably rose by just 0.2% in May, forecast by the MMS economists. That modest price increase would follow three consecutive price surprises that sent inflation shudders through the bond market. In April, prices shot up by 0.6%. But last month falling food prices probably helped slow the rise in the overall price index. Excluding food and energy costs, producer prices likely rose by only 0.2% in May, half of the worrisome 0.4% increase posted in April.



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A CHEAP BUCK WON'T WORK

A BETTER BET TO EVEN OUT TRADE: INVEST IN JAPAN

When President Clinton's long-awaited Japan trade policy is announced in the next few weeks, officials likely will stress import targets for supercomputers, auto parts, financial services, and other industries to curb Japan's \$50 billion trade surplus with the U.S. But a potentially more potent remedy—more foreign investment in Japan—probably will get only passing notice.

That could be a mistake. On both sides of the Pacific, evidence is mounting that the country that builds abroad wins the markets. By that measure, Japan is the winner. "The root of trade is investment," says William Attridge, chairman of the American Chamber of Commerce in Japan's investment committee.

FEW OUTSIDERS. Foreigners' investment record in Japan is dismal. Japan is the world's second-largest economy, but it "has the lowest level of per capita foreign direct investment and foreign corporate participation in the industrialized world," charges the House Wednesday Group, a congressional Republican caucus. Meanwhile, from Toyota Motor Corp.'s car plant in Kentucky to NEC Corp.'s computer factory in Massachusetts, Japan has invested billions to produce goods in the U.S. Purchases by the factories of everything from machine tools to spare parts have bolstered Japanese exports as the yen has strengthened. The Commerce Dept. says that 73% of Japanese imports into the U.S. go through plants and distribution

PERCENTAGE OF TOTAL SALES BY FOREIGN COMPANIES

JAPAN

1.2%

U.S.

16.5%

networks owned by Japanese.

The same should be true for Japan. But it isn't. In his 1992 book, *Rivals Beyond Trade*, Harvard business school professor

Dennis J. Encarnation asserted that 65% of America's exports since 1957 have gone from U.S.-based companies to overseas operations. He also found foreign-owned businesses in Japan and the U.S. import more from parents than they buy locally. "Trade is tightly linked to investment," says Encarnation. "Ownership matters." That's in contrast to Labor Secretary Robert B. Reich, who is more concerned with jobs.

Outside such early entrants as IBM and Texas Instruments Inc., few U.S. corporations seem to be able to get a leg up in Japan. Among the few U.S. companies that are cashing in is Compaq Computer Corp. Since last July, Compaq has put \$4 million in capital into a Japanese subsidiary. That move allowed Compaq to come from nowhere in the Japanese PC market to a share of nearly

INVESTMENT FROM ABROAD PER CAPITA

JAPAN

\$97

U.S.

\$1,618

1%, worth about \$40 million a year. Compaq imports computers from factories in Singapore and the U.S. 'R' Us Inc. is another example of investment paying off. Over the last year

built six stores in Japan that are drumming up an estimated \$100 million in annual sales. "We're the conduit for toy manufacturers in the U.S. and all over the world to enter Japan," says Vice-Chairman Iwano C. Nakasone.

But these companies are rare exceptions. Most foreign companies don't invest in Japan because it costs too much. Japanese land prices are the stuff of legend; a plant can cost several times more than in the U.S. And Compaq says it could put up a building in a year in Houston.



CLOSER TO THE MARKET: GENERAL MOTORS' TECHNICAL CENTER IN TOKYO



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TOO STRONG A YEN
HELPS STIFLE FOREIGN
INVESTMENT IN JAPAN**

h the \$230,000 monthly rent it pays its 5,000-square-foot Tokyo office. In land of the 107-yen dollar, expatriate also is dear.

One company that chooses not to ve Japan's high ts is Colgate-Palm- Co. The compa- is a booming suc- story all over the be, with a huge of its sales out- the U.S. But it a meager 2% of its sales in Japan. ef Executive Reuben Mark says a chhead in Japan would cost Colgate eral hundred million dollars, so he is using on other countries on the Pacif- im, where investing is cheaper and re efficient. In Japan, he says, "it's y costly to set up your distribution tem. Advertising costs are extremely h. And people costs are also very h."

ven after the Tokyo stock market sh, Japanese corporate assets also re- out of reach. Tokyo stocks fetch an

astronomical price-earnings ratio of 65, three times those in the U.S. The rising yen, up 12% since Jan. 1 (page 28), only exacerbates matters. "It raises the hurdle," says Kiyotaka Fujii, an investment

banker at CS First Boston (Japan) Ltd. "The higher stock market and the higher yen are a double punch."

Fujii says a client just nixed a planned

major equity stake in a Japanese food company because of price. Indeed, Harvard's Encarnation says the high yen "has the same effect as capital controls." But Encarnation and others say this barrier can be eased. The Wednesday Group, for instance, wants Japan to offer subsidized loans and tax breaks to foreign investors. And Encarnation suggests Tokyo encour-

**RATIO OF OUTGOING
TO INCOMING INVESTMENT**

JAPAN	U.S.
20.5	1.0

**SHARE OF WORK FORCE
HIRED BY FOREIGN COMPANIES**

JAPAN	U.S.
0.5%	3.8%

DATA U.S. HOUSE WEDNESDAY GROUP

age prefectures to vie for foreign money, as American states do. If that happened, "you might find land prices would come down rather quickly," he says.

"SCARED SILLY." Yet the Clinton Administration seems happy with a strong yen and is widely viewed as talking it up. When Commerce Secretary Ronald H. Brown visited Tokyo in April, Americans who pressed the importance of investment and the folly of a rising yen got nowhere. "He seemed scared silly of exporting jobs," says the American Chamber's Attridge.

Brown's not alone. In a May 26 meeting in Trade Representative Mickey Kantor's office, Clinton officials agreed to give higher priority to helping foreign-owned companies expand production in the U.S. than helping domestic companies expand overseas. The decision is a victory for Reich, who maintains that Washington should help any corporation, regardless of ownership, that hires Americans.

This policy might be one-dimensional. "If you don't have plants, design centers, and a sales force in Japan, it's hard to establish credibility," says Tatsuya Terazawa, deputy director of the Americas Div. at the Ministry of International Trade & Industry. "You can't see what customers need and competitors are doing."

Mindful of that hurdle, General Motors Corp. built a technical center in western Tokyo, hoping to get closer to Japanese carmakers who might buy its parts. But companies willing to take such a plunge are getting rarer. "The more expensive it is to buy assets, the less likely we'll be predisposed to buy our own plants and distribution networks," says General Motors Japan Ltd. President J. Michael Durrie.

The U.S. can ill afford to see such sentiments spread. Until Washington gets a clear fix on how direct investment influences trade flows, America's lingering trade problem with Japan may remain unsolved.

By Robert Neff in Tokyo, with Peter Burrows in Dallas and William J. Holstein and Larry Holyoke in New York

JAPAN

RECKLESS CHATTER FROM THE WHITE HOUSE

Unofficially, it's talking up the yen. That could have dire consequences

President Clinton is an Oxford-educated policy wonk. Treasury Secretary Lloyd M. Bentsen is a consummate Washington insider. And Treasury Under Secretary Lawrence H. Summers is a respected international economist. But when it comes to managing dollar policy, they're mere babes in Bretton Woods.

Since February, Administration officials have engaged in a clumsy attempt to talk up the yen as a way to reduce Japan's trade surplus with the U.S. In the process, they have spread confusion among allied governments—and ignited fears around the world of a full-blown dollar collapse.

"AMATEUR HOUR." Although the U.S. says it has no policy of driving the yen up and the dollar down, a pattern has recurred for months: One senior official after another suggests the yen is too cheap, driving foreign exchange markets into a frenzy of bidding up the yen's price. Then, the Administration retreats, denying that it wants to manipulate the dollar's value. "We are confused, and so is the market," gripes Tatsuya Terazawa, deputy director of the Americas Div. of the Ministry of International Trade & Industry. "I'm not sure the U.S. government has a clear policy."

Now, Washington's mixed signals are

starting to have serious consequences. With the dollar hovering around a post-World War II low of 107 yen, a 14% drop since Clinton took office, the Federal Reserve is getting worried. With the Administration's blessing, the Fed intervened repeatedly in currency markets, starting in late May, to prop up the greenback. Foreign exchange experts now wonder whether the Administration

Lowering the dollar against the yen hurts the greenback in other markets—and raises the chances for U.S. inflation

is pursuing a misguided "strong yen" policy or just showing its inexperience. "It's a little like the Amateur Hour," complains a senior Fed official. "They don't understand the risks they are courting."

Those risks are substantial. The Administration is counting on a stronger yen to put a dent in Japan's \$50 billion trade surplus with the U.S. Even if the strategy works, the benefit may be more than offset by the harm a weaker dollar

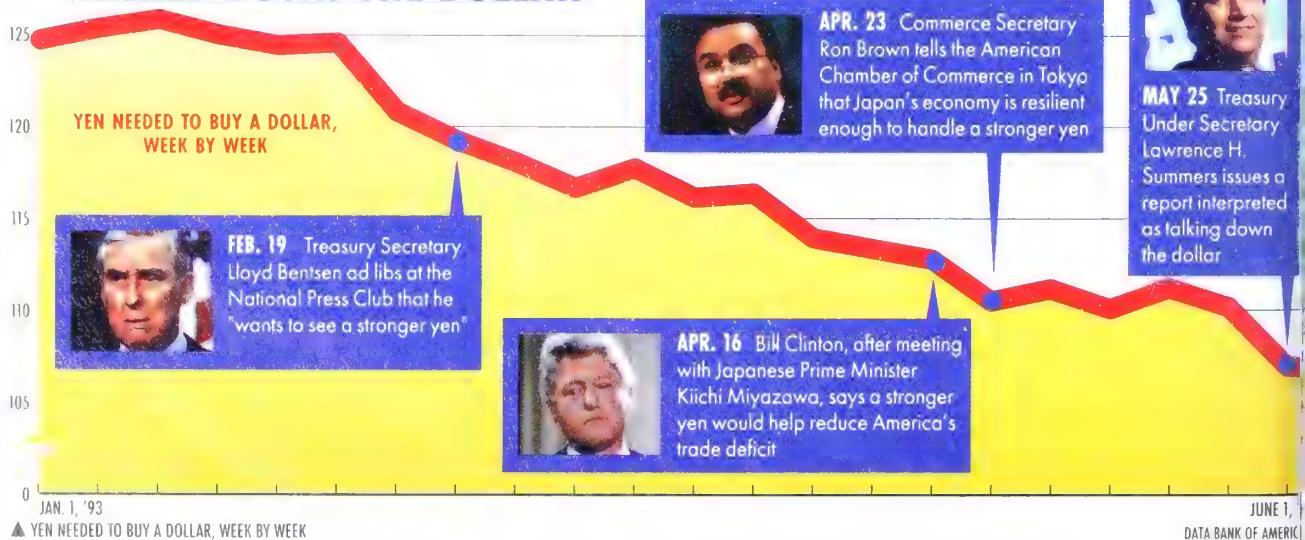
can do to the economy. One big danger is inflation. As a stronger yen squeezes exporters' margins, prices of Japanese goods are rising. U.S. competitors traditionally respond by boosting their own prices. And a higher yen hurts Japanese exports to the rest of the world, slowing growth at a time when Clinton is pressuring Tokyo to stimulate its economy.

But the Fed's biggest fear is that the dollar will also start a steep slide against other major currencies. After its late May fall against the yen, for instance, the dollar fell 3% against the German mark, to 1.59. If traders begin dumping greenbacks across the board, the Fed would likely try to stem dollar flight by jacking up interest rates—the last thing the Administration wants with the U.S. economy still struggling. "There has been a misunderstanding," Bentsen said in Paris on June 2. "We are not seeking an appreciation of the yen."

LOUDER THAN WORDS. Yet Washington has repeated assertions that it is not trying to manipulate exchange rates do not square with the Clintonites' actions (chart). Bentsen, a weathered U.S. political operator but a neophyte in international finance, was the first to create a stir when, on Feb. 19, he quipped: "I'd like to see a stronger yen." Fed Chairman Alan Greenspan was on the phone fast, gently lecturing the Treasury chief on the dangers of ad hoc dollar policy.

But Administration officials didn't ignore the message. On Apr. 16, at a news conference with Japanese Prime Minister Kiichi Miyazawa, Clinton himself declared that a stronger yen would help reduce the trade surplus. A week later, Commerce Secretary Ronald H. Brown said in Tokyo that Japan's economy v-

HOW THE CLINTONITES TALKED DOWN THE DOLLAR



able to cope with a higher yen. Those statements helped drive the dollar to less than 110, prompting the Fed Bank of Japan to intervene modestly by buying dollars on Apr. 27. Fed Chairman David W. Mullins Jr. suggested that every Administration official, including the President, should adopt the mantra: "We discuss the dollar."

The Administration seemed to get the message until May 24, when Brown talked about how a stronger yen would help reduce the Japanese trade surplus. He was quickly rebuked by Treasury officials. But the next day, Summers, who is Treasury's point man on international finance, also committed himself *ex pas* by sending Congress an exchange rate report that repeated Brown's observation in passing. The dollar began sinking—this time against an array of currencies. Summers admitted the dollar had fallen "too far, too fast," and the Fed—joined by the Bank of Japan—intervened three times between May 27 and June 1 to stabilize the dollar at 147 yen. BUSINESS WEEK has learned that Treasury's near-term goal is now to keep the greenback above that level.

BUYING. Treasury officials lament that traders have misinterpreted their statements. But market experts don't think that, figuring the Administration is determined to beat Japan into trade concessions by using the dollar as a club. "It's like the girlfriend who keeps saying she loves you, but every weekend you hear her with another guy," observes Robert A. Brusca, chief economist at Prudential Securities Co. International. "What else are you supposed to think?" European finance ministers aren't particularly upset with the dollar flip-flops, but they see the dollar so far hasn't fluctuated automatically against their currencies. They also reckon that a stronger yen might help reduce Japan's trade surplus with the European Community. The Europeans concede that things are confusing across the Atlantic. "It's difficult to figure out what the Administration's dollar policy really is," says a senior EC official.

The Administration really wants a stronger yen, its best policy might be to let the markets work their will. Traders find that tempting yields on Japanese government bonds and a balance of payments surplus pushing \$140 billion are enough to drive up demand for yen. On its part, the Administration claims it has learned that lesson. "Common dollar policy are unwise," says the president's deputy, Roger C. Altman. The Clintonites just have to prove they can heed their own advice.

Owen Ullmann in Washington, with Bill Neff in Tokyo, Bill Javetski in London and William Glasgall in New York

TRADE



WITH EUROPE'S ECONOMIES STILL LAGGING, THE EC IS FINALLY READY TO DEAL

SUNFLOWERS IN PROVENCE: NOW, EVEN THE BALKY FRENCH ARE SAYING OUI

WHO SAID GATT IS DEAD?

A new market-access agreement could lead to an accord by yearend

Dead. Finis. Kaput. That's what pundits have been saying about the Uruguay Round of international trade talks since 1990, when the Europeans balked at slashing agricultural subsidies and negotiations collapsed. Free traders feared the worst—creeping protectionism, a faster drift toward regional trading blocs, even a global depression.

But the moribund talks are about to get a surprising jolt. And that could lead to a new General Agreement on Tariffs & Trade by yearend. Meeting behind the scenes during the past few weeks, trade ministers from the U.S., the European Community, Japan, and Canada are close to reaching an agreement that would lower trade barriers for a broad range of manufactured products, making markets far more accessible. The so-called market-access agreement will be presented for formal approval to leaders of the world's seven largest industrial countries when they meet in Tokyo on July 7. "We're going to get a major agreement," predicts U.S. Trade Representative Mickey Kantor.

Why are the GATT talks rising from the ashes? On the U.S. side, a Clinton Administration whose trade rhetoric has turned hawkish of late wants to show that it still has a commitment to free trade. Announcement of the agreement at President Clinton's first G-7 meeting will also allow him to demonstrate world leadership on a global stage.

The Europeans are finally ready to deal, too. Europe's trade barriers have failed to boost struggling Continental economies, and the EC is now ready to try a different tack. In late May, the EC met French demands by agreeing to reform its agricultural policy to increase income supports for farmers who take their land out of production. With subsidies for oilseeds, wheat, gluten, and other goods no longer an issue, even the balky French now seem willing to negotiate. "Everyone is looking for some basis for reestablishing global growth," says Willard Berry, president of the European-American Chamber of Commerce. "A market-access agreement would have the biggest impact."

RICE CONCESSIONS. It took a change of tactics to get GATT back on track. Negotiators originally hoped to save market access for last, to sweeten an Uruguay deal that would impose comprehensive new global-trading rules. But in February, Kantor and EC Trade Minister Sir Leon Brittan decided to reverse course. They realized there would be no agreement unless GATT nations had a major incentive to deal, such as lowered trade barriers for manufactured products.

Details are still being worked out, but the deal is likely to call for dropping tariffs among the major industrial powers on specific sectors ranging from wood products and paper to electronics and textiles. Negotiations on financial and other services and on in-

lectual property rights will follow.

The EC and the U.S. also are joining forces to pressure Japan to make some concessions. They are calling on Tokyo to break down obstacles for foreign financial-services concerns. And Clinton has appealed to Japanese Prime Minister Kiichi Miyazawa in private meetings for Japan to act like a world economic leader by opening markets and joining in multilateral negotiations. Western officials say that, as hosts of the G-7 meeting, the Japanese have been surprisingly accommodating on crafting a market-access accord. U.S. officials say the Japanese have even hinted they might phase out protection of their rice market, a big

concession since it would anger farmers.

There's still plenty of skepticism about the prospects for a deal. "We've seen GATT breakthroughs before, undermined later by politics," notes James L. Butkiewicz, a GATT expert at the University of Delaware. The market-access accord would run counter to Europe's protectionist tradition. And Robert W. Jerome, an analyst with the Washington-based Economic Strategy Institute, worries that lowering tariffs in an iffy economy may not play well on Capitol Hill. "If you can't convince Congress that the North American Free Trade Agreement makes sense close to home," Jerome says, "it will be hard to convince

them that a GATT deal will be in U.S. interests."

Yet many experts see an improving atmosphere. What's new, says for Uruguay Round negotiator Julius Katz, is that "the motivation is sudden there for everyone to come to an agreement." That's a far cry from prospects when Katz and his boss, former U.S. Trade Representative Carla A. Hills, left office five months ago. But negotiators can't squander this opportunity after many disappointments. To quote Elvira: President Clinton's favorite male voice—it's now or never.

By Douglas Harbrecht in Washington with Bill Javetski in Paris

THE BUDGET

BUSINESS CAN BREATHE EASIER ABOUT CLINTON'S BUDGET

Congress is helping Corporate America dodge some tax hikes

You'd never know it from all the drama and handwringing that preceded the high-stakes House vote on May 27, but President Clinton's tax-and-spending plan remained largely intact on the first half of its journey through Congress. That, however, was the easy part. Greater agonies lie ahead, when the Senate Finance Committee takes up the package on June 7.

The Administration already has resigned itself to further compromise by deleting up to \$30 billion in tax hikes and adding as much in spending cuts. But White House officials are warning antitax senators that the trade-off will hurt. "Any reduction in the [energy] tax has to be paid for, and has to be paid for largely through Medicare," warns Deputy Treasury Secretary Roger C. Altman.

Yet when the tortuous legislative process is over, Clinton will have won enactment of a five-year fiscal plan that is strikingly similar to the program he laid out in February: a hodgepodge of tax increases, mainly on business and the rich; spending cuts focused on defense and entitlements; and "investments" in social programs, such as urban "empowerment zones." Even portions of Clinton's ill-fat-

ed stimulus plan will come back to life in smaller spending bills.

In all, the plan that leaves the Senate likely will propose reducing the budget deficit by \$500 million—about what the President started with. The Administration, its optimism undimmed by recent setbacks, hopes Congress will finish up by early July, leaving time for lawmak-

ber of tax hikes, and will likely do more bullets in the Senate. During House consideration, for instance, corporations gave up the little-loved investment tax credit in return for a half of the proposed increase in corporate income-tax rates. U.S. companies operating abroad ducked a Clinton proposal to hike taxes on royalty income. The House repealed some luxury taxes, while increasing the tax threshold for expensive cars to inflation. It also added a provision to allow for a 14-year write-off of intangible assets, such as customer lists, and a limit on expensing equipment in 1997. The year was raised to \$25,000, from \$10,000. All these provisions are likely to survive the Senate.

The big Senate battle will come over the energy tax. The House, trying to satisfy farmers and energy-intensive manufacturers, riddled the measure with loopholes. Corporate lobbyists now hope to persuade senators that the tax isn't worth saving, seeking to score it in favor of, perhaps, higher gasoline taxes. "The notion that we're going to subsidize manufacturers [with exemptions] to correct for a tax that shouldn't even have been made, makes no sense whatsoever," complains the National Association of Manufacturers President Jerry Jasinowski.

Business will resist attempts in the Senate to push the top corporate rate back up to 36%. The White House is alarmed at the rapid erosion of support for Clinton in the business community. But saving the marriage won't be easy after such a disappointing honeymoon. "The consider-



STILL STUMPING: CLINTON WILL FIGHT FOR "FAIRNESS" IN HIS ECONOMIC PACKAGE

ers to consider the North American Free Trade Agreement and perhaps begin work on health-care reform before its summer recess.

ENERGY LOOPHOLES. The good news for business, which had been targeted for a wide variety of tax increases in the original Administration proposal, is that it actually managed to escape a good num-

will that the President had, despite skepticism that business normally is toward a Democrat, is largely," says William T. Archey of the Chamber of Commerce.

The White House will still fight to the "fairness" portions of the tax package—hikes in the top individual tax to 39.6%, and limitations on write-offs for club dues and business enter-

tainment. But the Senate is likely to delay the effective dates for the income-tax hikes from Jan. 1 to midyear or beyond, easing a potential crunch on high-income taxpayers. "If people suddenly have to come up with a lot of cash next April, it could cause some problems in the economy," notes Rudolph G. Penner of KPMG Peat Marwick.

With the April Senate defeat of the

\$16 billion stimulus package still fresh on their minds, White House strategists are anxious to win big on Capitol Hill. "The Senate discussions offer a very good opportunity to redefine and reestablish" the Clinton message, says Chief of Staff Thomas F. (Mack) McLarty III. If that happens, no one will remember how painful the process was.

By Paul Magnusson in Washington

INVESTIGATIONS

THE PUSH TO PLUG IRAN'S TECHNOLOGY PIPELINE

Administration is strengthening its efforts to stanch U.S. exports

Last month, a group of federal agents seized two crates in a cavernous freight warehouse at Port Long Beach, Calif. The cache, destined for Iran, was a \$1.4 million satellite communications system harnessed to sophisticated Sun Microsystems Inc. computer. Three days later, law-enforcement officials swarmed the headquar-

ters of the equipment's manufacturer, Satellite Technology Management Inc., in Costa Mesa, Calif., and carted off 35 boxes of documents.

A federal grand jury in Los Angeles will investigate whether the company falsely claimed it had an O.K. from the Commerce Department, and, by attempting to deliver the computer, violated rules aimed at stopping nuclear proliferation. On May 2, the company launched an internal investigation conducted by an independent consultant and an attorney "challenged the validity" of the government's claims. Donald Weadon, the company's Washington attorney, insists that the shipment is permitted under Commerce rules.

EXPORT BAN. Satellite technology is the latest target of an accelerated U.S. drive to block exports of militarily sensitive technology to Iran. Mark W. Deliberti, director of export enforcement at the Commerce Dept., says the agency has 165 investigations pending against exports to Iran under way, a 700% increase from five years ago and among

the most directed at a single country. Already, such activity has led to a flurry of arrests and property seizures (table).

Some cases involve the export of military gear, which is strictly banned to unfriendly nations such as Iran. But the campaign, initiated by the Bush Administration and stepped up sharply under President Clinton, also extends to such

THE FEDS CRACK DOWN

Some 165 companies are under investigation by the U.S. for illegal sales to Iran. Here are some that it has taken action against:

MAY, 1993: SATELLITE TECHNOLOGY MANAGEMENT

Agents seize a communications system awaiting shipment to Iran. Commerce alleges the company had not received licenses to export the militarily sensitive system. No criminal charges have been filed; SCM says the shipment was legal.

APRIL, 1993: GEORGE ROSEN, PRIVATE INVESTIGATOR

Rosen admits in court he sold a polygraph machine that was resold by a distributor to officials at the Iranian Mission in New York City without a license. He is confined to his house for five months and is fined \$6,000, a sentence he calls excessive.

JANUARY, 1993: LUCACH, IRAN BUSINESS MACHINES

Executives of the two computer sales companies are indicted on charges of attempting to ship an IBM mainframe to Iran through Paris. Commerce had denied an export license because the computer could be used for military purposes. The executives deny wrongdoing.

NOVEMBER, 1992: AERO SYSTEMS

The airplane parts and service company is convicted of illegally selling jet parts to Iran. It is fined \$410,000 and placed on probation for five years. The company won't comment.

DATA: COMMERCE DEPT.

"dual-use" technologies as computers, chemical plants, and aircraft, which can be applied to civilian or military purposes.

The reason for the crackdown: increasing worries that Iran is restoring its military capability and could use its

new muscle to help spread Islamic fundamentalism and anti-Western politics throughout the Middle East—and perhaps into neighboring former Soviet republics. In a May 18 speech, Martin S. Indyk, the National Security Council's senior director for Near East and South Asian affairs, warned that Iran could exceed Iraq's pre-1990 military power in five years if preventive steps are not taken. "Through its active efforts to acquire offensive weapons, Iran is seeking an ability to dominate the gulf by military means," Indyk said.

BLANKETS. The efforts to stanch the flow of goods to Iran has not been welcomed by U.S. exporters, who saw sales to Tehran soar to \$747 million last year from \$55 million three years ago. The

aggressive new trade restrictions are expected to reverse that growth, though exports of some products with purely civilian applications still are permitted.

Early this year, for instance, Washington blocked BP-America Inc.'s proposed sale of chemical-manufacturing technology for building a \$250 million acrylic-fiber plant to manufacture clothing and blankets in Iran. The Bush Administration objected to the license originally granted by Commerce because the plant would produce as a byproduct hydrogen cyanide, a lethal gas that has been used as a chemical weapon. BP-America, a subsidiary of British Petroleum Co., had modified the original project to control the output of the gas.

Still, it opted not to reapply for a license to the Clinton Administration, the company says, although "it could have meant \$100 million in contracts for BP and other U.S. contractors."

White House offi-

TO:
IRAN

cialists also are expected to deny permission for Boeing Co. and General Electric Co. to seal an estimated \$740 million deal with Iran for as many as 20 Boeing 737s and their GE engines. Europe's Airbus Industrie could get the business instead. "The only effect of the policy is to put U.S. manufacturers at a competitive disadvantage," gripes Boeing spokesman Thomas M. Tripp.

As could be expected, the clampdown has driven Iran to seek equipment through clandestine procurement networks. In January, the U.S. government indicted executives at Lucach Corp. in Irvine, Calif., and Iran Business Machines in Costa Mesa on charges of attempting to ship an IBM mainframe computer to Iran through Paris. Commerce Dept. officials had denied an export license because the big computer could be used in a nuclear program. A trial of the two principals, Reza Zandian, 41, of Iran and Paris, and Charles R. Reger, 57, of Huntington Beach, Calif., is scheduled for this month. An attorney for Zandian, James C. Chalfant, denies any wrongdoing: "Evidence will show that my client never intended to send the computer to Iran without a license." Reger's attorney also maintained his client's innocence.

NOT WAVERING. In spite of Washington's persistence, Iran typically gets the technology it wants. Tehran, which claims it is merely rebuilding defenses decimated in its war with Iraq, is buying missile technology from North Korea and jet fighters from China. But it has also been a big buyer from the former Soviet Union, purchasing submarines from Russia and eight antiship cruise missiles from Ukraine. The missiles, capable of sinking aircraft carriers, have been deployed along the tanker routes in the Strait of Hormuz, according to U.S. military and intelligence sources.

Moreover, Iran already has active nuclear and chemical arms programs, asserts Yossef Bodansky, director of the Republican Task Force on Terrorism & Unconventional Warfare. A spokesman for Iran's U.N. mission in New York denied that the country is pursuing nuclear and chemical weapons.

Still, the Clinton Administration shows no signs of wavering. Such resolve may be a product of the painful lesson the government learned in Iraq. U.S. business played a major role in arming Saddam Hussein—and those weapons were used against American GIs in Operation Desert Storm. Washington is trying mightily to ensure that American military and technological prowess stays on the right side of any future battle.

By Michael Schroeder in Washington, with Larry Armstrong in Los Angeles

WHO'S AFRAID OF AT&T?

Not MCI and British Telecom. Together they'll rival the giant

For years, the world's big telephone companies have been trying to build up business outside their secure home markets. But most of the efforts have been cautious, if not timid. Everyone, it seemed, was waiting for the other company to make the first major move. Then, suddenly, it was done: On June 2, British Telecommunications PLC agreed to pay \$4.3 billion for a 20% stake in MCI Communications Corp. Now, the race is on among telecom companies to do similar deals. The goal: to become one of the giants that conquer the global telecom market.

The partnership between British Telecom and MCI clearly throws down the gauntlet to American Telephone & Telegraph Co. and its rivals abroad. Although AT&T has been making an aggressive push overseas, it still gets \$59 billion of its \$65 billion in revenues from the U.S. Now, with one bold stroke, MCI—AT&T's longtime nemesis—gains the kind of foreign foothold that has long eluded its much bigger rival. And with Britain's principal phone company at its side, MCI suddenly looks like a very powerful adversary. "The combination of the two companies will be formidable," gloats Iain D. T. Vallance, British Telecom's chairman.

25-YEAR HIGH. Indeed, together, MCI and BT have \$30 billion in revenues—all in telecommunications services. That nearly matches AT&T's \$39.6 billion in service revenues. And the deal puts \$4.3 billion in cash in MCI's coffers. Analysts predict that MCI Chairman Bert C. Roberts Jr. will use the hoard to move into mobile phones, cable TV, and other new growth businesses—in competition with AT&T. "Without a doubt this strategic alliance is the most exciting and promising opportunity in MCI's 25-year history," boasts Roberts.

Other big telecom alliances may already be in the making. Even before the BT-MCI agreement became public, AT&T was moving to expand faster abroad. Late in May, it announced nonequity agreements with five non-U.S. phone companies to provide global service—though the group, called WorldSource,

lacks European partners. Now, AT&T may move to counter BT on its home turf. One possible ally: Britain's Mercury Communications Ltd.

Meanwhile, other big rivals aren't likely to stand idly by. Among those believed to be looking for partners are France Telecom and Germany's Deutsche Bundespost Telekom. One likely U.S. ally: Sprint Corp., the No. 3 U.S. long-distance carrier, which was put at disadvantage by the MCI-BT deal. "The battle lines are being drawn," says Richard C. Toole, an analyst with Merrill Lynch & Co. "Everybody's getting in everyone else's backyard."

The alliance between MCI and British Telecom is an indication of how much the old rules of global telecommuni-



AFTER THE MCI-BT DEAL, THE RACE WILL BE ON TO BUILD OTHER GLOBAL PHONE TITANS

have changed. nce says he first reached MCI's late Bill McGowan three ago about doing a At first, the talk ust of BT taking an y stake in the U. S. any. The two sides close to agree- several times, but talks always fell , says H. Brian pson, chairman of nternational, an long-distance com- Thompson was key negotiator in lks in his previous at MCI. A major ng point: BT was it would sour its onship with AT&T,

pays BT huge sums for the com- n of calls from the U. S. to Britain. **THAT.** But that worry started to ish as AT&T became more aggres- broad. Then, last year, MCI invest- Stentor, a Canadian phone consor- largely owned by AT&T partner Bell da. Annoyed, AT&T invested in Bell da's main rival, Unitel. Thompson s that BT saw that as a signal of a re in the way AT&T dealt with inter- nal competition. The growing rival-



ry began to escalate into a feud when BT asked U. S. regulators for permission to link U. S. customers with Britain and other countries—something only U. S. carriers can do now. AT&T quickly asked British regulators for the same O. K.

With the two companies increasingly battling head to head in each other's markets, Vallance decided to act. Earlier this year, he ran into Roberts at a Paris trade show and revived the idea of a deal. The talks soon got serious. "I think

both companies finally realized the mutual benefits of the alliance and how we could make it work," Roberts says.

Roberts and Vallance met several times, including once for lunch at New York's Sky Club. Then Roberts dispatched MCI President Daniel F. Akerson to London to dig deeper. Gradually, Vallance says, the type of deal being discussed expanded into talk of a broad joint-venture company. The deal nearly fell through again over technical issues such as stock valuations. At one point Akerson even

checked out of his London hotel thinking the deal had foundered, only to have BT call him back to the table. Eventually, the trouble spots were worked through, and the two companies' boards signed on on June 1.

CULTURE CLASH. Now, they plan to carve up the globe. MCI will market phone service to multinationals in North America, South America, and the Caribbean, while BT takes the rest of the world (table). They are building on a strong base: 40% of the world's top 100 multinationals are based in the U. S., and 13% are in Britain. "BT and MCI are dividing and conquering," says Sean Phelan, an analyst with market researchers Yankee Group Inc. With cash burning in its pockets, MCI is also expected to go on a shopping spree quickly for cable, mobile phone, and other assets in the U. S.

Can the partners make their grand alliance work? There are problems: Their corporate cultures starkly contrast with one another, for starters. MCI is scrappy and entrepreneurial, while stodgy BT still has some characteristics of the British postal system from which it is descended. BT, moreover, has stumbled before in the U. S. Disappointments include its money-losing Syncordia Corp., which runs global phone systems for major companies. Then there's its 20% stake in McCaw Cellular Communications Inc., which never provided the entree to the U. S. it was supposed to. Ironically, AT&T's move last November to buy one-third of McCaw, including BT's stake, helps give BT the cash for the MCI deal.

Despite the challenges, the alliance signals a new level of competition in international telephone service. If MCI and BT can't succeed, there's little doubt that others will.

By Bart Ziegler in New York, with Mark Lewyn in Washington and Paula Dwyer in London

IVING UP THE WORLD: THE DEAL WILL WORK

WHAT MCI GETS

9% stake in a joint networking y that will market communications to multinational corporations, plus market in North America, South y, and the Caribbean.

3 billion infusion of cash that it can ove into new markets such as wire- munications.

ght to buy all of British Telecom's ets.

BT BRITISH TELECOM GETS

of MCI's equity. BT agrees not to its stake for 10 years.

1% stake in the new joint global ng company. BT will market to all e, Asia, Africa, and the South Pa- on.

help in turning around its money- lanta-based Syncordia unit, ns global phone services for major panies. Syncordia will be rolled new joint venture.

DATA: COMPANY REPORTS



MIKE HARPER TAKES HIS MAGIC ACT TO RJR

The man who turned sleepy ConAgra into a superstar faces a huge task

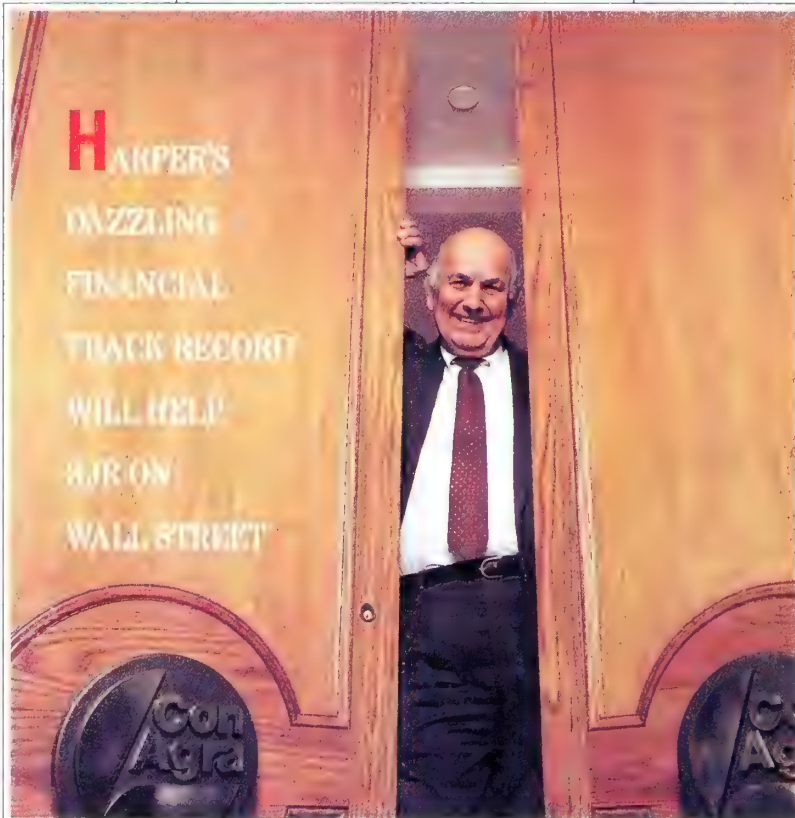
It's barely 11 a.m. on June 1, his first official day as chairman and chief executive of RJR Nabisco Holdings Corp., but Mike Harper already is in top form. "It's really my second day," he quips between briefings on operations, get-acquainted sessions with key employees, and meetings with investment bankers. "I worked on Friday for nothing—and that's what they got."

Actually, RJR Nabisco got a whole lot more. Wall Street analysts reacted with some surprise to the selection of a 65-year-old semi-retired exec for the top job at the food and tobacco giant, vacated when Louis V. Gerstner Jr. was annointed CEO of IBM on Mar. 26. But self-effacement aside, Charles M. Harper may prove an inspired choice. In fact, he put in 12-hour days at Omaha-based ConAgra Inc. And with a series of savvy acquisitions and aggressive new-product introductions, he turned the small, near-bankrupt grain processor into the second-largest U.S. food company.

Welcome now, Mr. Harper, to RJR Nabisco. The problem Gerstner was hired to fix—massive debt from Kohlberg Kravis Roberts & Co.'s buyout four years ago—has diminished. Instead, what RJR needs is a manager with experience battling price wars and building market share in both commodities and packaged goods. In particular, its domestic tobacco profits are plunging, hammered by brutal discounting by market leader Philip Morris Cos. and cheap generic cigarettes. For 1993, RJR's net income, excluding extraordinary items, will dive 19%, to \$633 million, figures Roy D. Burry, an analyst for Kidder, Peabody & Co.

More to the point, RJR Nabisco as early as June 4 will receive Securities & Exchange Commission approval to sell a

new class of stock based on the food unit's operating profits. Originally expected to be priced at \$17 to \$19 a share, the company had hoped to raise \$1.5 billion to help repay debt. But now, with food stocks slumping, some potential buyers are pressing RJR to sweeten the



deal. "I'm really skeptical about whether I want to participate in the Nabisco offering," says Arthur Cecil, an analyst for mutual fund giant and RJR stockholder T. Rowe Price Associates Inc.

That's one place Harper fits in. Henry Kravis, the KKR partner who recruited the new CEO, says the hiring wasn't related to the food division offering. But Harper's dazzling financial track record surely will help win the plan credibility with investors—and sell the issue for KKR, which owns 49% of RJR Nabisco. Since 1980, indeed,

ConAgra's per-share earnings have shot up at a compounded annual rate of nearly 17%—compared with 11.5% for the Standard & Poor's food group—to an estimated \$371 million in the fiscal year ended May 28, says Craig L. Carver, research director at John G. Kinnard Co. And ConAgra's stock has appreciated an average of 26% a year since Harper joined the company in 1974.

A prime beneficiary: KKR, which sold Beatrice Co. to ConAgra in 1990. Harper paid half of the \$1.34 billion purchase price in ConAgra stock, which gave KKR a tidy \$336 million profit in 18 months. That left Kravis impressed: "[Harper] is a hands-on administrator, an extremely

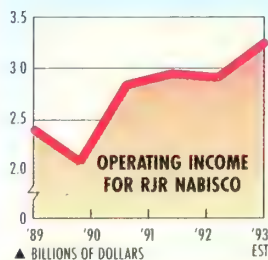
well-respected leader, a builder of products and brands," he says.

Harper certainly doesn't match the slick Manhattan-toned style of Gerstner or, for that matter, Kravis. In fact, he'll keep his primary home in Omaha, preferring to commute to the company's bases in New York and Winston-Salem, N.C. He wears unfashionable short-sleeved shirts to the office and pilots small planes for fun.

CLOSE TABS. But it's Harper's management style that KKR finds appealing. His penchant for delegating should fit well with RJR's decentralized structure and with the seasoned executives, H. John Greeniaus and James W. Johnston, who head its food and tobacco units. At ConAgra, Harper set stiff financial goals, then gave his managers virtually free rein to hit the targets. But he kept close tabs on them, too, demanding weekly financial briefings by telephone and in person from 25 operating-unit heads around the world.

Harper, whose only experience with tobacco was a two-pack-a-day habit until he quit in 1981 after a heart attack, must fashion a strategy to rev up RJR's domestic tobacco business, which will kick in 47% of 1993's \$3.42 billion in operating income and 35% of sales, says Burry. Nabisco also will demand some attention.

PROFIT PROGRESS



Software Coach.



One of the finest academic institutions in the country – the University of Miami – also has one of the best football teams.

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Top of the News

tion. It's the U.S. leader in cookies and crackers, but those markets are flat, at best. So Harper is likely to pursue more acquisitions, following Nabisco's \$400 million in purchases last year, and move more aggressively overseas.

Some investors even expect KKR to cash out of its RJR Nabisco investment by selling off parts or even all of Nabisco in the next few years. KKR, they say, will rely on Harper to revive the holding company's stock, which has nose-dived 50% since mid-1992. "Any

time you have financial holders, they keep looking at offers and running the numbers," says Patrick Clegg, an analyst at RJR shareholder Luther King Capital Management. "At some point, they'll want to sell more of this thing." RJR and KKR won't comment on that scenario, and Harper himself says he wants to "build a great company." He'd better move fast.

By Lois Therrien in Chicago, with Maria Mallory in Atlanta and Laura Zinn and Elizabeth A. Lesly in New York

PERSONAL COMPUTERS

NOW, HP STANDS FOR HOT PRODUCTS

Its snazzy new PC lineup is grabbing the limelight—and market share



THE CALL TO DISTRIBUTE THROUGH TRADITIONAL DEALERS, SUCH AS MICROAGE, PAID OFF

The buzz at the recent Comdex personal-computer trade show in Atlanta was all about a whizzy new ultraportable PC called the OmniBook. Due to be introduced on June 7, the \$2,000 sub-notebook weighs just under three pounds but manages to offer a full-size keyboard, lots of data storage, and—in a first for a portable—built-in popular software for easy access. All this, and it can run up to an amazing 10 hours on four AA batteries.

Must be the latest from a powerhouse, say Compaq or maybe Apple, right? Guess again. The OmniBook comes from Hewlett-Packard Co., a perennial also-ran in the PC business, known mainly for its minicomputers, workstations, calculators, and measurement equipment.

Suddenly, HP is one of the fastest-growing PC companies around. Although its PCs have done well in Europe, HP's PC sales in the U.S. have been dismal until recently, leaving it with just 1.5% of the world market. But domestic shipments

soared last year, to 210,000 from just 70,000 in 1991, according to Boston-based market researcher BIS Strategic Decisions. That's still a long way from the 570,000 systems Compaq shipped last year. But BIS predicts HP's PC shipments will be 78% higher in the second half of 1993 than in the first half, thanks in large part to the OmniBook. That should push HP onto the top 10 list of U.S. computer sellers for the first time.

RADICAL MAKEOVER. The engineer of this turnaround is Robert J. Frankenberg, a 24-year HP veteran who was named general manager of the Personal Information Products Group two years ago. At the time, it didn't seem an enviable assignment. Frankenberg admits that HP priced its PCs about 30% above average, its distribution was a shambles, and it

spent a too-long 18 months bringing new products.

But Frankenberg quickly lit a fire under the organization. First, he split into three divisions: mobile products, which includes HP's popular palm-top computers; desktops; and high-end servers. He also cut the staff by 40%, ordered up new products, with a 12-month deadline for introduction.

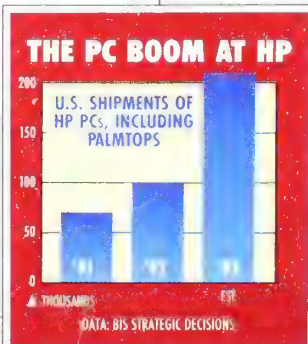
The changes began to pay off last summer, when HP trotted out a low-line of PCs, the Vectra 486/Us series. Sales skyrocketed, despite Frankenberg's risky call to sell only through traditional dealers, such as MicroAge and ComputerLand USA, eschewing fast-growing mail-order market. It turned out to be right on: When Compaq and IBM—struggling with severe product shortages and the demands of multiple distribution channels—cut back shipments to dealers, HP was a well-known brand the stores could count on. Its best-selling line of PC printers was well-established, and its reputation for top-notch engineering made its product an easy sell to corporate buyers. "Despite past missteps in the PC business, today it's a hit," says ComputerLand President Edward R. Anderson.

The bottom line is better, too. Revenues from HP's personal products group, which come mainly from PCs, shot up 50%, to \$1.5 billion this year, Frankenberg says. And PCs turned profitable in 1992, after several years of losses.

SHIPSHAPE. HP hopes to keep the momentum going with a batch of nifty new products at competitive prices. On June 1, it introduced an overhauled Vectra line that includes a unique, infrared modem that can transfer data without a cable to a nearby printer or portable computer. The new Vectras also are the first desktop PCs in the industry to include slots for credit-card-size plug-in devices that can contain modems, hard disks, additional memory. These cards are relatively uncommon now, but are widely expected to become ubiquitous.

And then there's the OmniBook. Analysts estimate that HP could sell anywhere from 40,000 to 100,000 units this year and predict it will take six months or more for a rival to develop a comparable system. "HP seems to have a better understanding of what the market wants in this market than any of its competitors," says BIS analyst J. Henning. That's the heart of the buzz that HP hopes will make it a powerhouse in PCs.

*By Catherine Arnst
New York*





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VIDEO GAMES: IS ALL THAT GORE REALLY CHILD'S PLAY?

Violent games spark a debate over ratings

In video arcades across America, your kids are pumping quarters into Mortal Kombat, a game that features characters vying for the title of the world's supreme street fighter. It's a common enough theme in the video world—but there's a twist. Mortal Kombat's characters look more like photographic images than cartoons, and the fights are for keeps: Good punches send animated blood flying. The winner might knock the loser off a ledge to land im-

produce general-audience games," says Peter T. Main, vice-president for marketing for Nintendo of America Inc. "A rating system is not acceptable."

Most video games today are indeed tame, especially compared to movies or TV. To ensure that games do not contain racist, sexist, sexual or "overly graphic" violence, Nintendo and Sega both impose guidelines on their own products and ones from outside developers. Sega says it will continue to exercise restraint. The

older. James Stewart, a 19-year-old playing Mortal Kombat in a San Francisco arcade, enjoys the fact that "it does look fake. It's a lot more real with the blood and stuff."

The question now is whether children should have access to that. Parker Page, president of the Children's Television Resource & Education Center, a consulting group, says that the studies done on the effects of interactive violent video games, kids play more aggressively on the playground than those who had played less violent or none at all. "I don't think anybody going to find the effects [of violent games] to be positive," says Page.

Video games are also getting more sexual in nature. In Sega's CD-based Night Trap, for example, teenage girls at a pajama party are abducted by zombies. The British Board of Film Classification has banned sales of the game to kids under 15, and Toys 'R' Us won't sell it in Britain and Canada.

"WHERE'S THE BLOOD?" For now, the issue is mainly violence. Even Nintendo, which says two-thirds of its consumers are under 15, approved distribution of Street Fighter II, which features a fighter gnawing on an opponent's head. There's demand for more violent sports games as well. Bing Gordon, senior vice president at game maker Electronic Arts Inc., says he recently tested a new hockey game with 25-year-olds. "They said 'Where's the blood?'"

But is a ratings system the answer?

Nintendo criticizes Sega's scheme because it claims Sega could cheat on a rating system it controls itself. For its part, Sega says it has approached software and film organizations about an independent scheme and found no takers.

Some video-game makers are preparing to forge a common solution. "If people won't regulate themselves, we should have some sort of rating system," says Joseph P. Morici, senior vice-president of Commodore Com USA Inc., maker of Street Fighter.

Indeed, as adults join in on the video game craze, ratings are probably as inevitable as your kids begging for Mortal Kombat by next Christmas.

By Richard Brandt in San Francisco



MORTAL KOMBAT ALLOWS PLAYERS TO TEAR HEADS OFF OPPONENTS' NECKS

paled on a spike, or rip out a still-pulsing heart by hand, or tear off the opponent's head and hold it up victoriously, the spinal cord dangling from its neck.

This ain't the Mario Brothers. But Mortal Kombat may be joining them in your living room soon. Acclaim Entertainment Inc. is working on versions for the Sega and Nintendo game systems.

HEATED DEBATE. The home edition probably won't have all the gore of its arcade counterpart. Nonetheless, the graphic violence has launched a heated debate among video-game makers. Sega of America Inc., anticipating the criticism Mortal Kombat could touch off, has said it will initiate a self-imposed rating system (table). Nintendo Co. has condemned Sega's scheme as a self-serving way of tolerating sex and violence. "We want to

ratings system "is not a license for pornography or excessive violence," says Ellen B. Van Buskirk, a director of marketing at Sega.

But a ratings system may be a way of pushing the boundaries outward. That may be inevitable because of games such as Mortal Kombat. Live-action video technology makes graphic violence more realistic. And these games are attracting older audiences. Some 70% of those who play the most advanced Sega system, the one with a built-in CD drive, are 18 or

HOW SEGA WOULD RATE VIDEO GAMES

GA (General Audiences) No fighting games or "life scenarios," such as sexually suggestive situations, allowed.

MA-13 (Teens, 13 to 17) Some mayhem permitted, but no decapitations and other "graphic" violence. Adult themes such as violence and crime must involve only cartoon characters.

MA-17 (Adults Only) More graphic violence and adult themes involving "real" filmed characters allowed. Still prohibited: Very graphic killings, nudity, and ethnic and other stereotypes.

DATA: COMPANY REPORTS

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activated "smart-hinge" that allows it to automatically function in a number of mind-boggling ways. When it's flat, it "knows" to open like an attaché, revealing a sizable main compartment for the bulk of your belongings.

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that are accessible from both briefcase and portfolio positions. Plus, it's a Samsonite®, so it's got the brawn to back up its brains, and to protect your contents like nobody's business. Call it applied artificial intelligence! Call it brilliant! Or call 1-800-262-8282 for more information (it may be the smartest thing you ever do).





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COMPUTERS, COMMUNICATIONS, MICROELECTRONICS

EDITED BY JULIE TILSNER

BEVERLY HILLS BUST

Brenda and Brandon of television's *Beverly Hills 90210* have finally graduated from high school. But will their parents feel flush enough to foot the college bill? In real life, the median price of a home in this plush Zip Code has plunged.



OH WHAT A HEADACHE AT SYNTAX

► It's a good thing Syntax makes painkillers. On June 2, company execs got the bad news: An advisory committee to the Food & Drug Administration recommended that Syntax' flagship product, the popular arthritis drug Naprosyn, not be approved for over-the-counter use. Syntax stands to lose big in December, when Naprosyn, a billion-dollar drug, goes off patent. The company had teamed up with Procter & Gamble hoping to sell Naprosyn without a prescription, but the FDA committee had concerns over the lack of data demonstrating that the drug is safe in OTC doses. Given Syntax' nearly empty new-product pipeline, this setback sets it way back.

APPLE WON'T SAY UNCLE

► A lot of companies would have packed it in by now. But not Apple Computer. On June 1, U.S. District Judge

Vaughn Walker said he will issue a ruling giving the heave-ho to Apple's latest claims that software by Microsoft and Hewlett-Packard copied the "look and feel" of the Macintosh. That should have spelled the end of a tumultuous, five-year battle that has cost all three companies millions. But Apple vows it will try to take its case to appellate court. "We think it is important that innovative graphical computer works receive the protection to which they are entitled under the copyright law," says Edward Stead, Apple's general counsel. Meanwhile, Microsoft and HP are celebrating—and planning to ask the courts to order Apple to pay their "many millions of dollars" in legal costs.

RHÔNE-POULENC PLUNGES INTO BIOTECH

► Pharmaceutical outfit Rhône-Poulenc Rorer will boost development of gene and cell therapies when it takes a controlling stake in Applied Immune Sciences, a cell-therapy pioneer. RPR was scheduled to announce on June 3 that it plans to invest \$113 million in the nine-year-old Santa Clara (Calif.) company for a 37% interest. RPR's holdings could grow to 60% by the middle of 1997. The companies hope to jointly open cell-therapy centers

WHEN WILL ROSEANNE HAVE HER OWN CARD?

Once, there was the Elvis Presley MasterCard. Now, it's... the Louis Rukeyser card? The 430,000 well-heeled members of the starchy *Wall Street Week* host's investment club soon will be offered their very own no-fee, low-rate Louis Rukeyser Wall Street Club gold MasterCard.

Rukeyser's offering joins an ever-widening array of cards, including one from another TV financial celeb, Charles J. Givens, author of *More Wealth Without Risk*, currently lacking a certain, oh, exclusivity. But only members can apply for a Rukeyser card, and for the brokerage, stock quotation, and long-distance phone services that will be announced in July. What they won't get, disappointingly, is Rukeyser's visage on the card itself. That precludes an otherwise inevitable Elvis-like debate among devotees: Should it be the young Lou or the old Lou? Rukeyser didn't return calls.



worldwide, using techniques developed by Applied Immune that are still in clinical testing and not yet approved by U.S. regulators. One promising technique: taking blood or bone-marrow cells from cancer and AIDS patients, treating them, and then reinfusing them in the patients to restore health.

SUDDEN EXIT AT TAMBRANDS

► The chairman and CEO of Tambrands, Martin Emmett, abruptly resigned his post on June 1, a day before the company announced that earn-

ings for 1993 are expected to fall significantly short of 1992's more than \$3 a share. Heavy price increases and increased competition have hurt Tambrands, maker of Tampax tampons, with flat market share. Tambrands closed at 42½ on June 2, down 3½ from its 52-week high of 56½. Howard B. Wentz, Tambrands board member since 1985, was named temporary chairman.

CRAY COMPUTER: THE CASH IS COMING

► He hasn't sold a computer yet, but at least now Seymour Cray has the money to keep trying. Cash-starved Cray Computer will take up to \$33 million from a private stock offering on June 11. The money should keep humming for at least a more year. The supercomputer genius himself will invest \$5 million, and 30 unidentified institutions and offshore investors among them—are buying in, too. Without the boost, Cray Computer—not to be confused with well-established Cray Research—would have been forced to close its doors for good before the end of summer.



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The new Toyota Supra. It's taken everything sports cars were before

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ALL THE PRESIDENT'S ATTENJAMMER KIDS

That flaming object flashing past your window is not Halley's comet. It's Bill Clinton, heading with breathtaking speed toward record lows in his popularity. As a result, the White House has plunged deep into a uniquely Clintonian invention: The perpetual, multitiered, rolling staff reorganization.

It's not a pretty sight. As a governor and a Presidential campaigner, Clinton was constantly supplanting aides with newcomers. Hardly anyone got fired, and the top-heavy structure lurched from crisis to crisis—while somehow serving Clinton's needs. Again, Clinton is rushing in reinforcements.

The turmoil is further cooling CEOs' interest in the Administration. "It's a warning sign to watch," says David R. Swanson, chairman and CEO of General Electric Corp. "It's an organizational issue. Clinton badly underestimated the complexity" of Washington.

True, but at least the President has credit for realizing the problem. He signaled a move back to the center by hiring Washington veteran David Gergen, a savvy insider who put a spit-shine on Reaganomics, as communications czar. Other changes are in the works, and when Clinton is in, he'll have a three-tiered setup that may look like this:

Downsizing. Given the job of repackaging Clinton as a "New Democrat," Gergen will lead frustrated Administration centers. But he'll have to share power with Chief of Staff James F. "Mack" McLarty III, who will spend much of his time lobbying Congress, where he's liked more than Clinton. There's no mistake, though, McLarty's star has dimmed. He may make operational decisions to Harold Ickes, a New York attorney known for his take-no-prisoners management style. Negotiations on Ickes' role and arrival date are under way.

The result, if Ickes signs on, would be a power-sharing deal that harkens back to Ronald Reagan's first-term "trium-

virate." But unlike the generally conservative trio of James A. Baker III, Michael K. Deaver, and Edwin Meese III, Clinton's triad is made up of ill-fitting parts: Gergen backs rightist policies, McLarty straddles the middle, and Ickes hovers out in far left field. "Pure Clinton," sighs a Democratic pol. "He throws incompatible people together and assumes it'll work."

Walking wounded. Ex-message-meister George Stephanopoulos, banished to the netherworld of "long-term strategy," remains an influential adviser. McLarty deputy Mark D. Gearan, seen as over his head in that post, will assume new duties jawboning mayors and governors. And Chief Counsel

Bernard J. Nussbaum, whose clumsy intervention in Travelgate tarred Clinton, may be reined in by White House topiders.

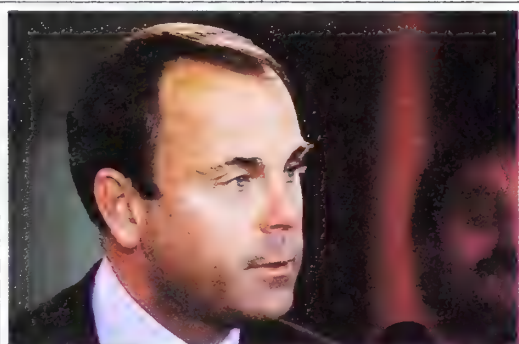
Casualties. Some aides could see their clout curbed. Government liaison chief Regina Montoya, accused of failing to sell Clintonomics at the grass roots, may depart. And Political Director Rahm Emanuel will see a veteran operative imposed over him. A fund-raising whiz, Emanuel is "very weak" as a strategist, according to a top Democratic official.

Viewing the White House turmoil

with trademark serenity is McLarty, a former executive who is struggling in his role of tempering Bill Clinton's enthusiasms. Confident that the President's fortunes will recover when his new team gels and Congress approves his budget, McLarty insists Clinton Inc. is a long way from Chapter 11. "If you looked at us as a business, considering our accomplishments, we'd be quite successful."

That's a tough sell. Says Republican Richard E. Sabourin, CEO of BesTop Inc., a Colorado auto parts manufacturer: "If you play politics all the time and don't have priorities, you're going to drown in your own soup." Spoon, anyone?

By Lee Walczak and Susan B. Garland, with bureau reports



McLARTY MAY BE BRACKETED BY GERGEN AND ICKES

ITAL WRAPUP

ALTH

While plunging popularity and White House turmoil may be sending Bill Clinton back toward the center, a new poll suggests that when it comes to health-care reform, boldness is best. The survey, sponsored by the Robert Wood Johnson Foundation, found that 85% of Americans feel "major changes" or a "complete overhaul" of the health-care system is necessary. Paradoxically, 55% of those surveyed think the nation spends too little on health care, yet 54% said the biggest problem facing the system is high costs. And by a 39%-to-31% margin, respondents favored government con-

trols over competition as the best way to keep down costs. The poll found that Americans were willing, by a margin of 2 to 1, to pay higher taxes to insure health care for all. The favorite levies: stiff tax hikes on alcohol and cigarettes and a new tax on doctors, hospitals, and insurers.

ECOLOGY

Interior Secretary Bruce Babbitt is learning that even universal praise for an idea isn't enough to get it past bureaucratic barricades. Babbitt won kudos all around when he proposed a National Biological Survey to identify and catalog all living creatures and help produce more rational environ-

mental-protection policies. But the plan is encountering resistance at Interior's Fish & Wildlife Service: It fears that the new project will staff up quickly by grabbing the service's best scientists.

INSIDE THE BELTWAY

Could it be a leading indicator? Washington real estate agents are grouching that most of the young Clintonites who have flocked to Washington are renting, rather than buying, homes. It may be sticker shock, since prices in the capital are among the nation's highest. Or it may be that given all the turmoil in the White House, aides aren't sure just how long they'll be needing Washington housing.

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[RHYTHM & BLUES]

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INFLATION HAS CHINA RUNNING SCARED

Authorities fear that unrest on the scale of 1989 may erupt

After two years of double-digit growth, Beijing technocrats will have a hard time convincing real estate developer Zheng Yufeng that it's time for the Chinese economy to cool off. An executive at Shenzhen Huapeng Properties Co., Zheng also is a general in the Armed Police. Talk that Beijing will clamp down on bank lending to the red-hot property sector doesn't worry Zheng, who has government friends with access to cheap loans. Even Shenzhen's heavy traffic doesn't bother him. When cars start to slow Zheng down, he simply speeds his Mercedes 600 through a bicycle lane.

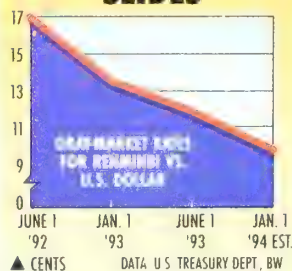
Getting China's "red capitalists" to play by the government's rules has become a serious challenge for Beijing. Communist Party General Secretary

Jiang Zemin is warning colleagues that China faces serious instability if it can't contain runaway growth. Jiang is spooked by double-digit inflation, an overheated real estate market, a new trade deficit—and officials such as Zheng who aren't listening to their superiors in Beijing. The leadership's biggest fear is that the superheated economy could help spark demonstrations similar to those that erupted during the 1989 democracy movement. Those protests led to the Tiananmen Square massacre and the downfall of Zhao Ziyang, Jiang's predecessor.

Efforts to gain control of the economy are being complicated by the latest power struggle in Beijing. Premier Li Peng hasn't been seen since late April. He reportedly has suffered a heart attack and rumors abound that the hardliner now being ousted from power. Li reportedly angered Deng Xiaoping by disagreeing with the paramount leader's demands for faster growth. With Deng's blessing, the economy grew 14% in the first quarter, fueling a burst of inflation. After three years of stable prices, the inflation rate is approaching 20% in China's biggest cities.

HEAVY TOLL. While it faces the possibility of political tension over inflation at home, Beijing also has to worry about the repercussions with its trading partners. The surge in prices has taken a toll on China's currency, the renminbi (chart). The semi-official exchange rate for the renminbi has decreased 10% in the past five months. That's an ominous sign to policymakers in Washington, already angered by an \$18.3 billion trade deficit with China last year. On May 25, the U.S. Treasury De-

THE RENMINBI SLIDES



that China is depressing the renminbi to impede imports. The currency devaluations are hurting some U.S. exporters. "Most customers are holding out until they know how low the renminbi will go," says Michael C. Y. Lung, Chemical Co.'s general manager in China.

Even a lower renminbi is not helping to improve China's overall trade picture. The country's current-account surplus is an impressive \$13.3 billion in 1991, more than halved in 1992 as imports of everything from steel to stereos to toy cars far outstripped the 20% growth in exports. For the first four months of 1993, China reported its first deficit in four years, \$1.7 billion. Even in the estimated \$5 billion to \$8 billion in smuggled foreign goods, notes Seng Bank senior economist Joann and China's trade deficit looks even more serious.

The problem, Chinese officials say, is that imports are out of control. It's state enterprises, which receive 80% of bank loans, are stashing hard currency in real estate and securities in Hong Kong and the U.S., rather than putting it into export-oriented manufacturing. Air flight last year soared by two-thirds, to \$30.5 billion, according to the *China Daily*.

While the strains in China's economy are serious, the situation today isn't as bad as in 1989. Consumer goods are plentiful, and the income of urban dwellers is keeping pace with inflation. Free-market reforms, which have boosted competition and lowered prices of most goods in the past few years, are likely to make the swing from boom to bust less severe.

KNUCKLES. Yet managing a soft landing for the economy will be difficult. Jiang's exhortations aside, Beijing's main tool for restraining growth is its control over the banking system. The Finance Ministry has been urging a slowdown on bank lending to slow the annual expansion in money supply. That's a tall order when half of China's lending is now believed to be done by local banks and foreign investors, well outside the confines of the state planning system.

What really worries China-watchers is Deng Xiaoping, after so many decades of political warfare, seems to view the tempt to slow growth as an attack on his reforms. "There should be a tightening of the growth in money supply," says a Western economist in Beijing. "Until Deng agrees, white-knuckled technocrats can only hope the frail reform will take his foot off the accelerator before China veers out of control."

*Pete Engardio in Hong Kong, with
Lindorff in Shenzhen and Lynne
in Beijing*

HONG KONG

SPRING THAW IN HONG KONG

The Chinese are cooperating with business, which is thriving

Last winter, Hong Kong had a grave case of the chills. As Governor Christopher Patten pushed to lock in democratic reforms before the Chinese takeover in 1997, the colony's future overlords in Beijing lashed out relentlessly, slamming Patten as an imperialist meddler and blocking one commercial deal after another. China's outbursts shook business confidence in the colony. In one week in December, the Hong Kong stock market plummeted, losing 17% of its value. Says a senior Hong Kong official: "The Chinese

market is bullish, too, with real estate prices rising up to 20% in recent weeks.

Why Beijing's sudden turnabout? Hong Kong officials say China now seems willing to separate economics from politics. That change likely is a result of quiet pressure from billionaire Li Ka-Shing and other Hong Kong magnates, who started cozying up to Beijing years ago. "China's policies were effectively hurting its closest allies in Hong Kong," says a local official, "and they told Beijing to ease off." Power struggles in Beijing also may be a factor. Premier Li Peng, one of Patten's harshest critics, hasn't been seen in public since April. In his absence, more reform-minded leaders, such as Vice-Premier Zhu Rongji, may be calling the shots.

LOW PROFILE. Beijing has other reasons to be on its best behavior. By bullying Hong Kong, China would have made it more difficult for the Clinton Administration to extend its MFN trade status. Beijing also is eager to host the Olym-



CITY LIGHTS:
HONG KONG
MAGNATES
PRESSURED
BEIJING TO
RELENT

abuse machine was at its very zenith."

Six months later, the machine is off. Relations between Britain and China have quietly taken a turn for the better, as Beijing seems ready to compromise on economic issues. Talks on constructing Hong Kong's new airport resume early this month, after a seven-month hiatus. The British and Chinese will also meet in mid-June for a fifth round of talks on Hong Kong's future. And Beijing has signed off on three major projects that straddle 1997.

The Chinese mood swing, combined with the U.S. decision to renew China's most-favored-nation trade status, is giving Hong Kong's economy a big lift. The stock market index hit seven record highs in recent weeks (chart). Many analysts think it is headed for 8,000 by year-end, from 7,325 now. The property mar-

ket is bullish, too, with real estate prices rising up to 20% in recent weeks. Even so, there are no clear signs that China will now accept greater democracy in Hong Kong. "Beijing is smiling on one side and holding tight on the other," says a Western diplomat in Beijing. "An obvious decision was taken to cooperate on economics and maintain a hard line on sovereignty."

Patten has helped to defuse tensions by keeping a low profile. While the governor says he isn't backing down, he still has not set a time frame for sending his proposals on political reform to the legislature. While waiting nervously for their governor's next move, Hong Kong's business leaders can only hope Beijing's abuse machine will stay in cold storage.

*By Joyce Barnathan in Hong Kong, with
Lynne Curry in Beijing*



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IN THE MIDDLE EAST, BUSINESS MAY BE BROKERING PEACE

There were some unexpected—but not unwelcome—visitors at a big international trade fair in Tel Aviv in early May. Along with the German, French, and American firms sizing up esoteric new drip-irrigation technology and specialized fertilizers were scores of businessmen from countries that regard Israel as an enemy: Morocco, Saudi Arabia, Bahrain.

As peace negotiations between Arabs and Israelis move at a snail's pace in Washington, business between the Jewish state and its neighbors in the Arab world is showing surprising signs of life. In recent weeks, for example, Israeli companies have begun work at a \$5 million joint venture in southern Morocco. Last April, Benjamin D. Gaon, chief executive of Tel Aviv-based Koor Industries Ltd., Israel's largest industrial conglomerate, quietly lined up deals with Morocco and another country he won't identify. "This is still a very, very sensitive issue," says Gaon.

"But we feel we are waking up from a long sleep."

U.S. officials trying to broker peace between the Israelis and Arabs wonder whether the growing economic ties could add momentum to the peace negotiations. In recent breakthroughs negotiated by the U.S.,

Middle Eastern countries, including Israel, now hold regular meetings to discuss ways of spurring economic growth in the region. At the latest round of these multilateral talks, held in

May, Israelis, Palestinians, Saudis, and others kicked out ideas ranging from joint promotion of tourism in the Land to a high-speed train system that could one day run from Syria to Egypt through Israel. Israeli Trade & Industry Minister Micha Harish thinks these meetings are "beginning to affect the agenda" of the political negotiations.

THE FRUIT. In fact, the prospect of money, jobs, and economic growth is starting to look mighty appealing. The Palestinians agreed to come back to the bargaining table in May after the U.S. and Egypt persuaded Saudi Arabia to resume the \$1 billion aid King Fahd had cut off to punish the Palestinians for supporting Iraq's Saddam Hussein. The World Bank, which has taken its cues from the U.S., is laying the groundwork for a potentially huge development effort in the West Bank if a deal is struck. "The fruits of peace need to be much more attractive," says a senior U.S. official.

Even without a formal settlement, the quiet commerce between Israel and its neighbors is substantial. From tomatoes to lettuce that are shipped regularly across the border, the World Bank into Jordan to air-conditioning units, drugs, solar

heaters, and chemicals, trade this year will reach some \$400 million to \$500 million, estimates Gil Feiler, an economist at Israel's Bar-Ilan University. "Business is several steps ahead of politics," he says.

Those numbers amount to less than 5% of Israeli exports, but such trade could mushroom quickly if real progress is made in the peace talks. A top corporate lawyer in Riyadh says that large Saudi trading companies are quietly preparing for commercial ties with Israeli companies. Koor's Gaon says that the Arab market could easily account for 20% of Koor's \$2.2 billion sales following a political pact.

CLOAK AND DAGGER. Since direct commercial links still are illegal, Israeli and Arab businessmen have to show a good deal of creativity—and care—in dealing with each other. In Cyprus, just a short flight from Damascus or Tel Aviv, goods manufactured in Israel and the Israeli-occupied territories

are brought to the port of Limassol, where they are re-packed and shipped to the Arab world—with Made-in-Cyprus labels. Because of a similar re-packaging operation in Europe, products manufactured by Netafim, an Israeli world leader in desert irrigation, wind up in Jordan and Saudi Arabia. An Egyptian businessman reports that he even takes Israeli labels off of agricultural equipment that he sells in Egypt, where it is legal, because of lingering hostility to the Jewish state.

Such cloak-and-dagger games may not be needed much longer. The U.S. and Israel are mounting a big behind-the-scenes effort to kill the Arab boycott, under which all Arab countries except Egypt ban trade with Israel. The current plan is to persuade the Group of Seven leading industrial nations to adopt a forceful antiboycott statement at the group's upcoming summit in Tokyo. Already, Germany is forcing its companies to adopt tough, U.S.-style antiboycott procedures.

The Arab boycott is fraying, anyway. Since the Gulf war, Saudi Arabia and Kuwait have quietly disregarded the secondary boycott, which forbids trade with companies doing business in Israel. That, in turn, has led such companies as Korea's Hyundai Corp. and Japan's Matsushita, which once shied away from Israel, to become active there.

While the Arabs' ability to absorb Israeli products is probably limited, exports to major markets in Asia and Europe could explode. That could be the real payoff for Israel from a peace treaty.

By John Rossant in Rome, with Neal Sandler in Jerusalem and Sarah Gauch in Cairo





**SAN JUAN RALLY:
SUPPORTERS OF 936 FEAR
MORE UNEMPLOYMENT IN
A POOR WORK FORCE**

A HURRICANE HEADS FOR PUERTO RICO

Yanking a tax break called 936 could set off an economic storm

The narrow streets of Vega Baja, Puerto Rico, are a world away from Washington. But Mayor Luis Menéndez knows that politicians inside the Beltway hold his town's future in their hands. Among the issues at stake in President Clinton's economic plan is the multi-billion-dollar tax break that has enticed a panoply of U.S. companies to towns across Puerto Rico. Some 3,500 residents of Vega Baja work for General Electric, Warner-Lambert, Motorola, and Schering-Plough. If Congress makes severe changes in the tax benefit, the workers could lose their jobs. "It will be agony," warns Menéndez.

That concern washes clear across the 100-mile-long island. The House in late May voted to phase out the tax break known as Section 936 of the Internal Revenue Code, which allows U.S. corporations to escape federal corporate taxes on products made in Puerto Rico. The substitute: a 60% wage credit, or a tax exemption equal to 60% of wages paid. But that, executives

warn, won't allow high enough returns to justify staying in Puerto Rico. Factories there could be shut down in favor of such low-tax locales as Ireland or Singapore, jeopardizing many of Puerto Rico's 152,000 manufacturing jobs. And the companies will withdraw much of their estimated \$14 billion in deposits in Puerto Ri-

PUERTO RICO'S DEPENDENCE ON CORPORATE TAX BREAKS

Top 10 U.S. companies manufacturing in Puerto Rico under Section 936

Company	Number of employees	Major products
BAXTER INTL.	5,547	Pharmaceutical
SARA LEE	5,037	Underwear, hosiery
GENERAL ELECTRIC	3,555	Electric components
H.J. HEINZ	3,550	Processed tuna
JOHNSON & JOHNSON	3,354	Health care
WESTINGHOUSE ELECTRIC	3,281	Electric components
ABBOTT LABORATORIES	2,633	Pharmaceutical
BRISTOL-MYERS SQUIBB	2,163	Pharmaceutical
WARNER-LAMBERT	1,649	Pharmaceutical
UNITED STATES SURGICAL	1,594	Surgical/medical

DATA: CARIBBEAN BUSINESS

co's thriving bank. "The U.S. doesn't understand that 936 is the backbone of the Puerto Rican economy," says Daniel Ibrón, president of the Puerto Rico Manufacturers Assn. and general manager at G. Searle & Co.

Despite the hit it will deliver to the island's \$34 billion economy, a change in Section 936 is inevitable. The Senate Finance Committee will take up the issue as it considers Clinton's overall budget. The Administration sees a chance to plug a large loophole and raise projected \$7.3 billion over five years. Senator David H. Pryor (D-Ark.) and other

politicians view changing 936 as a way to get at what they see as excess profits from pharmaceutical companies, which enjoy more than half the benefits. And U.S. unions want Congress to gut the tax break, they say encourages nonunion "runaway" shops.

NEW PARTNERS. All this adds up to the beginning of the end of a policy of paternalism. That's forcing Puerto Rico to examine how best to survive with fewer Washington handouts—and also whether to stick with its current commonwealth status or push for statehood.

It isn't just the tax fight that's causing the sudden introspection. As the U.S. and Mexico draw nearer to a North American Free Trade Agreement, the potential of a powerful new southern partner threatens to disrupt traditional trade and investment flows between the U.S. and the Caribbean. In short, Puerto Rico must rethink its entire economic formula.

Many Puerto Rican leaders insist on only a slow reduction of U.S. tax breaks will prevent steep unemployment and mass migration. While 936 is being phased out, pro-statehood Governor Pedro J. Rosselló is pushing a plan to develop sectors of Puerto Rico's economy that are not dependent on 936, including paring bloated government payrolls and boosting tourism from 6% to 12% of gross domestic product. Another pillar: privatizing state-owned companies.

Forging a new economic mo-



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will be tough because Puerto Rico's wages, while still below those of the mainland, are high compared with its Caribbean neighbors'. Even with a 60% wage credit, labor costs in the apparel industry, for example, would be the highest in the region. Says Antonio J. Colorado, former Economic Development Authority chief: "The future of Puerto Rico has to be in high tech. All our costs are higher."

Overall, manufacturing today accounts for 40% of the island's gross domestic product. Puerto Rico also has a sizable banking and finance industry to service 936 companies, since interest earned on profits invested in financial instruments in Puerto Rico also is exempt from federal taxes. In all, some 390 U.S. companies have Puerto Rican operations under 936, accounting for 11% of the island's total employment—not including jobs created indirectly.

But per capita income, while high by Caribbean standards at \$6,360, still is less than half of that in Mississippi, the poorest U.S. state. About 60% of the island's 3.5 million residents live below the U.S. poverty line. Unemployment is 18%.

"LOUSY VEHICLE." These sad statistics fuel both sides of the 936 argument. Backers of the tax break point out that the bulk of manufacturing jobs on the island is with 936 companies. But Luis P. Costas, a lawyer who has written widely on the subject, says "936 is a lousy promotion vehicle for investment. It's not tied to real employment or investment—it's tied to profits."

And it is costly. The General Accounting Office estimates that the U.S. gave up \$2.3 billion in taxes from corporations in Puerto Rico in 1987 alone. Drug companies got the biggest break: It cost the Treasury \$70,000 to create each job, which pays an average of \$26,000 annually.

If a shift away from 936 isn't handled delicately, efforts to nurture indigenous business could also be set back. MOVA Pharmaceutical Corp., the island's only locally owned drug company, does about 70% of its manufacturing for two U.S. pharmaceuticals, and 30% is in generic drugs. The \$30 million company had planned a \$5 million expansion this year, but Joaquin B. Viso—who was president of SmithKline Beecham PLC's Puerto Rican unit and left to found MOVA—remains cautious. Now he will invest only \$1.5 million to upgrade pollution-control equipment. "Unless what is done is thought through carefully, it will hurt not only 936 but local suppliers and contractors," says Viso. The U.S. may want Puerto Rico to stand on its own two feet, but yanking away 936 without helping to plot a future course could end up deepening the island's dependence.

By Gail DeGeorge in San Juan, with Paul Magnusson in Washington

POLICY

CLINTON'S HIGH-TECH FANS ARE STARTING TO BOO

From Silicon Valley to Route 128, disappointment is growing

At last, the high-tech community thought, it had someone it could do business with in the White House. As a candidate, Bill Clinton chatted about building an information superhighway—and promised he would reverse the Bush Administration's reluctance to promote cutting-edge civilian technology. Unlike past Presidents, Clinton tapped a science adviser before taking office. His choice of John H. Gibbons, head of the Congressional Office of Technology Assessment, was widely

when Congress rejected Clinton's stimulus package. The rest may be in peril as a deficit-fighting Congress chips away his "investment" program.

The National Competitiveness Act, which embodies much of Clinton's high-tech vision, has also taken its lumps. It passed the House on May 19 laden with amendments, such as one requiring products made with taxpayer-funded technology to be made only in the U.S. "We can no longer support it," says William G. Morin, director of technology

policy at the National Association of Manufacturers. He wishes the Administration had done more to push the bill through intact, but that's "tough to do when no one is minding the ship."

What troubles the techies the most is that while Clinton was distracted by more pressing demands, no one spearheaded the technology plan. Vice-President Al Gore, Mr. Technology during the campaign, has been spending much of his time heading a government-efficiency initiative. Meanwhile, the most aggressive



SCIENCE ADVISER GIBBONS WAS A POPULAR CHOICE

popular. And he put his money where his mouth was on Feb. 21 by proposing to spend \$17 billion over five years on everything from helping small manufacturers use the latest technology to sponsoring development of a "clean" car.

There's just one problem: Clinton hasn't gotten much done. High-tech executives—who provided much of Clinton's business support during the campaign—laud the President's intentions, but are becoming dismayed by the lack of action. Says former Cray Research CEO John A. Rollwagen, who withdrew as Clinton's nominee to be Deputy Commerce Secretary when his confirmation was hung up by an insider-trading investigation: "Do I think the Administration has the right idea? I certainly do. Do I think the Administration is executing it effectively? Far from it."

CHIPPING AWAY. Consider the fate of the February technology policy, which drew cheers from Route 128 to Silicon Valley. A lot of the money, including \$103 million for Commerce's Advanced Technology Program and \$207 million for the National Science Foundation set to be spent in fiscal 1993, disappeared

technology outfits, the Pentagon's Advanced Research Projects Agency and the Energy Dept., are driving policy on their own. Commerce Secretary Ronald H. Brown's efforts to seize high-tech leadership—a role given him by Clinton—have so far mostly produced pyrrhic fights. As a result of these problems, says Erich Bloch, distinguished fellow at the private Council on Competitiveness: "We are wasting valuable time. I'm not yet disillusioned, but I am concerned."

A White House official admits there have been setbacks in implementing technology policy but declares: "I think we're moving forward." The Administration set out to prove that when Brown and science adviser Gibbons scheduled a meeting with top computer-industry executives for June 4. But going in, they faced a skeptical audience. For example, Silicon Graphics CEO Edward McCracken, an early and enthusiastic Clintonite, now says only that he's reserving judgment on technopoly. Unless Clinton and Gore can deliver results soon, even that generosity may not last.

By John Carey in Washington, with Russell Mitchell in San Francisco

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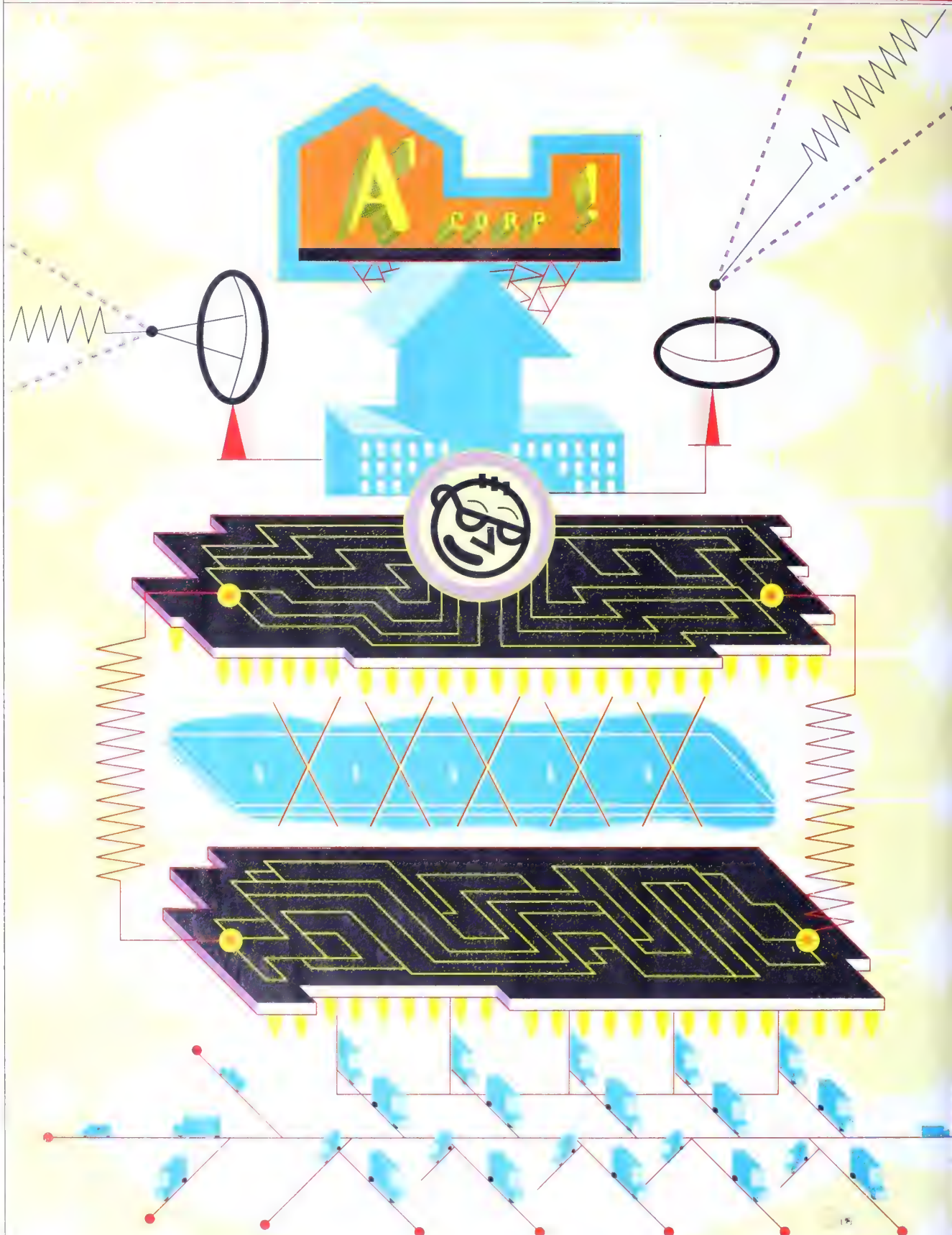


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THE TECHNOLOGY PAYOFF

A SWEEPING REORGANIZATION OF WORK ITSELF IS BOOSTING PRODUCTIVITY

Behind its faux-Georgian facade, the Federal National Mortgage Assn. seemed the very essence of modern, high-tech organization. The marketing prowess of Fannie Mae, the nation's largest buyer of home mortgages, was built on an imposing foundation: stacks of mainframe computers. The marketing behemoths processed huge quantities of loan information and perpetuated the company to pool millions of mortgages into easily sold securities.

But by the early 1990s, those mainframes and a highly centralized management system had become barriers to Fannie Mae's further expansion. Despite its enormous power, the Washington-based company's computers simply didn't keep up with the growing volume of work. So Fannie Mae began reengineering itself, breaking down the old centralized departments that slowed things down and replacing them with work teams that linked financial, marketing and computer experts at the start of each deal. Tying it all together is a network of more than 2,000 personal computers and new software that makes machines accessible to workers with a minimum of training.

The \$10 million investment in the new

computers paid for itself in less than a year. When interest rates plunged in 1992, refinancings surged. Volume soared. But so did productivity: Even as Fannie Mae handled \$257 billion in new loans, nearly double its 1991 volume, it had to add only 100 more employees to a work force of nearly 3,000. "If we had not used this technology," says Vice-Chairman Franklin D. Raines, "our business would have collapsed." Instead, Fannie Mae's profits jumped 13%, to \$1.6 billion.

The Fannie Mae story is a small part of a revolution that is sweeping America's offices and factories. At last, after years of costly struggle, U.S. business is finally making the information revolution pay off. One reason: Historically, it has taken companies a generation or more to truly master major new waves of technology. For instance, U.S. manufacturers first used electric motors in the 1890s, but productivity didn't take off until the technology finally dominated factories—nearly 30 years later. Now, 40 years after IBM sold its first commercial mainframe, information technology has penetrated every corner of the U.S. economy. What's more, today's computers are cheap and, thanks to new software and networks, far more accessible and useful.

PARADOX LOST? But the real breakthrough isn't just in technology. It's the sweeping changes in management and organizational structure that are redefining how work gets done. Largely prodded by rising global competition, these overhauls are known loosely as "reengineering," a process that questions traditional assumptions and procedures—and

then starts over. Often, this means breaking down the old functional fiefdoms—in marketing, engineering, manufacturing, and finance, for instance—and redeploying workers in multidisciplinary teams, such as the ones at Fannie Mae, that concentrate on getting the right products and services to the customer.

Once the work has been redefined, the new information technology plays a key role. "User-friendly" software, PC networks, handheld wireless terminals, and other gadgets are used to move information to the front lines—to give the folks on the factory floor or in the customer-service department the knowledge they need to act quickly.

For instance, when Aluminum Co. of America began feeding production data back to the factory floor, workers at its

Addy (Wash.) magnesium plant quickly saw ways to boost productivity by 72%. Says Harvard business school professor Gary W. Loveman: "Gains come not because the technology is whiz-bang, but because it supports breakthrough ideas in business process." For Fannie Mae, changing the process meant doing lots more work with just a few more people. For dozens of other corporations, reengineering has meant being able to take on more work—even while downsizing.

That's the formula for a productivity explosion. If this new industrial revolution continues to spread from big outfits, such as Fannie Mae, to hundreds of thousands of smaller companies, the U.S. economy could be in for a new era of economic growth. Increased productivity, driven by a sea change in technology and management, may set off a powerful

CONTINENTAL EFFICIENCY

In Europe, a new era is also dawning *page 61*

THE NUMBERS GAME

Counting widgets can't gauge today's output *page 68*

JOBS—EVENTUALLY

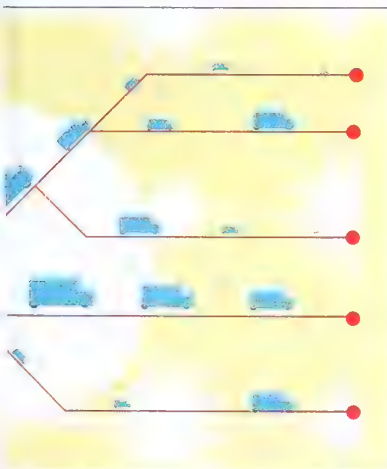
Productivity gains should lead to new hiring *page 72*

SOFTWARE POWER

New approaches start to deliver results *page 76*

PRODUCTIVITY STARS

U.S. companies showing the most improvement *page 79*



Special Report

cycle of fatter profits, new investment, higher wages, and a rising standard of living.

It's a stunning reversal of the picture just a few years ago. Throughout the 1980s, U.S. businesses invested a staggering \$1 trillion in information technology. For a long time, it looked as though most of that money was going down a rat hole. Economists spoke of a productivity paradox: Despite the huge investment, businesses saw little payoff. Profits were flat, and productivity growth was stagnant. And, most troubling of all, in the service sector, where businesses sank more than \$800 billion into technology, the results were the worst. Overall, national productivity rose at a puny 1% annual rate, compared with nearly 5% in Japan, and the U.S. standard of living stagnated.

Now, there are tantalizing hints that the big payoff may finally be at hand. The first sign: Since the bottom of the

and what history tells us is that this is an early stage of a major expansion of employment," says Federal Reserve Board Chairman Alan Greenspan.

Increasingly, business leaders and economists are pointing to the melding of new corporate structures and advanced information technology to explain the productivity surge. A new look at investment by 400 large companies from 1987 to 1991 shows, for the first time, evidence of a real technology payoff. According to the soon-to-be-published analysis by Erik Brynjolfsson and Lorin Hitt of Massachusetts Institute of Technology's Sloan School of Management, the return on investment in information systems averaged a stunning 54% for manufacturing and 68% for all businesses surveyed. And perhaps most significant, productivity gains aren't just coming from cost-cutting or cost avoidance: The reengineered corporations are boosting their top lines, too.

hovers at 7%, partly because the changes in corporate structure are causing short-term dislocations—known euphemistically as downsizing.

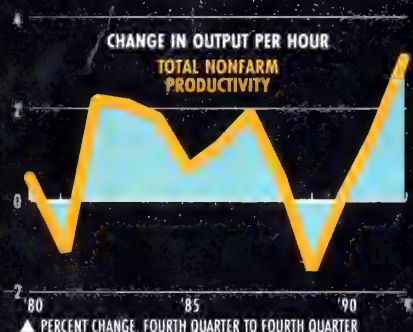
Corporations have been laying off huge numbers of middle managers, but cause the reengineering and technology make it possible to do without them. The old corporate hierarchies, in which management's function was to transmit information from the field or factory to the executive suite and relay commands from the corner office back to the troops. Data bases and computer networks now do the job—faster, better, and for less. "People who don't add value are going to be in trouble," says Marvin E. Bergstein, president of Technology Solutions Co., a systems integrator. "If your job is just passing orders along, you could get lost in the shuffle."

Skeptics insist that only a handful of large, high-profile companies have reaped benefits from a combination

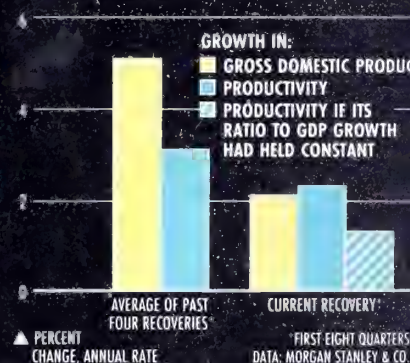
A HUGE INVESTMENT IN INFORMATION TECHNOLOGY...



...HELPS PRODUCE PRODUCTIVITY GAINS...



...THAT ARE STRONG DESPITE SLOW GROWTH



recession in 1991, productivity gains have been outpacing overall economic growth. While productivity always picks up in a recovery cycle, this is the first postwar recovery in which productivity raced ahead of growth. And even though productivity growth sagged in the weather-ravaged first quarter of 1993, in the eight quarters since the trough, output per hour has increased at an average annual rate of 2.3%. In 1992, productivity rose nearly 3%, its best showing in 20 years (charts). Most encouraging: Service-sector productivity finally sprang to life, matching the gains that began in manufacturing in the 1980s.

The second sign: In the face of a sluggish recovery, corporate profits are up sharply. Much of the profit surge comes from lower interest rates, but higher productivity is playing a role, too. "The productivity level emerging in this age is opening up profit margins. It is creating a significant amount of new investment,

Such results are making all sorts of economists take notice. Morgan Stanley & Co. economist Stephen S. Roach, who sounded the alarm about the productivity paradox in the mid-1980s, is now convinced that information technology is driving what he's calling a productivity-led recovery. "We're just beginning the journey," he says, "but we've moved to a higher productivity growth path."

SKIMPY EVIDENCE. Not every economist is convinced that the U.S. is on the verge of such a productivity explosion. Skeptics point out, for example, that the usual evidence is nowhere to be found: If we were really seeing productivity gains, incomes would rise, which would spur increased demand for goods and services, and, eventually, new hiring. So far, real wages continue to stagnate and in this recovery, job growth is lagging (page 72).

One explanation is that it's simply too early in the process to see such concrete evidence. And unemployment still

technology investment and structural change. They say that outfits such as Apple Computer, Chrysler, and General Electric may be racking up impressive gains (page 79), but they are the exception. Recently, however, evidence has begun to accumulate that these success stories are being repeated throughout the economy. Richard L. Florida, professor of management at Carnegie Mellon University, recently surveyed 2,000 small and midsize businesses in the Great Lakes states. He found that many as 60% realized some improvement by restructuring work.

Small companies are also being infected by the big companies they deal with. As the large outfits extend their electronic tentacles, the new information technologies are moving down the corporate food chain, from big buyers to their suppliers, through the service sector, and even into small businesses. DuPont Co., for example, no longer expects invoices from some of its vendors

stead, it just processes bills electronically. And with about 5% of its suppliers, the chemical giant doesn't even bother with purchase orders. Outside vendors are linked electronically with DuPont's internal inventory system. When the suppliers see that DuPont is running short on an item, they simply deliver replacement goods. "When you do it electronically," says Thomas F. Holmes, director of materials and logistics, "you simplify the process."

Just ask Phoenix Designs Inc. in Zeeland, Mich. A year ago, the Herman Miller Inc. subsidiary sold office furniture the old-fashioned way. Independent salesmen sent a salesperson to a customer's office, where the rep would pitch ideas for a designer, who would work up a draft. After six back-and-forth weeks, the sales rep would finally show the customer a proposal. The arrangement drove buyers nuts—and cost Phoenix sales.

SKTOP DESK. Now, thanks to some PCs and a custom software program called Zis, salespeople have become their own designers—and are generating proposals in four or five days. One dealer, Continental Office Furniture & Supply Corp., Columbus, Ohio, has made a sale each of the 70 times it has used the system. And some small dealers have reported an average increase in sales of 1,000%. The next step begins next month: a portable system that will allow salesmen to work on designs in the customer's office. So far, Phoenix has spent about \$1 million and has been rewarded with a 27% jump in aftertax income. "We're convinced this is the way to go," says Gary W. Van Spronsen, Phoenix vice-president of market development. The whole idea is to streamline a cumbersome process.

Could such reengineering cure the health-care industry? Hospitals are virtually temples of technology, full of diagnostic equipment and back-office computers that tally up bills. But doctors, the hospitals' production workers, have resisted changes in their work routines. When physicians at the University of Virginia Hospital were asked to use computers to order drugs and other treatments, they were so angry they staged a job action. Now, a new crop of computer-literate residents has embraced the system. "Almost five years into the process, we are finally where we want to be," says pediatrics professor Thomas Massaro, "using technology to improve productivity."

Doctors and other professional-class addressees won't be able to escape the web of information technology for long, however. Electronic mail, videoconferencing, laptops, car faxes, and cellular phones have changed the very definition of the office. Robert F. Mitro, senior

TIMBERLAND NEW INFORMATION SYSTEMS MAKE IT AS EFFICIENT TO HANDLE SMALL ORDERS AS LARGE ONES



PUTTING A SHINE ON SHOE OPERATIONS

At Timberland Co., reengineering has unraveled some old assumptions. The Hampton (N.H.) shoemaker had always measured productivity by the size of each delivery, so priority was given to department-store orders rather than those from small retailers. But managers of the \$291 million company began to realize that small boutiques were a growing chunk of their business. Two years ago, they set out to change their routine.

Timberland began by scheduling two or more shipments to each customer a week—instead of one big delivery. Scanners automatically track inventory and create shipping bills, so it's as efficient to handle small orders as big ones.

Reengineering is hitting other operations, too. Instead of having one department take orders and another verify credit, the two were merged. Now, orders are sent to manufacturing via a network—faster and with fewer errors.

Timberland is also taking to the electronic highway to reach customers. By letting stores transmit orders automatically to its computers, the company expects to double sales volume for every 25% increase in its sales force. At Timberland, staying a top shoemaker means not sticking to its last—or the past.

By Gary McWilliams in Boston

vice-president at PictureTel Corp., a Danvers (Mass.) maker of videoconferencing equipment, says some buyers still justify the cost of a system by savings on travel, but the real payoff lies elsewhere: "Customers tell us that the benefit is in their ability to bring together more expertise, faster." The impact, he says, is really on the revenue line, not on costs.

WORKER INPUT. Extending the networks and the information throughout the organization also helps improve quality, responsiveness, and, inevitably, sales and profits. "In factories, people on the line are thinking like industrial engineers," says Carnegie Mellon's Florida.

That's certainly true at General Electric Co. After spending a bundle on technology in the 1980s, some GE managers now believe that redesigning work is the real long-term solution to productivity problems. "We've taken automa-

tion out of factories," says Gary Reiner, GE's vice-president for business development. "We have found that in many cases technology impedes productivity."

Instead, GE's big breakthrough has been giving workers flexibility and unprecedented authority to decide how to do their work. "All of the good ideas—all of them—come from the hourly workers," says Reiner. At GE Power Systems, a \$6.8 billion unit that makes generating equipment, changes in production methods cut inventory carrying charges by \$90 million to \$100 million a year.

Perhaps the biggest opportunity for reengineering is where the old approach to information technology has been most disappointing—in financial-services companies. The big banks and insurers were notorious in the 1980s for plugging in more and more number-crunching power every year and trading up to every new gizmo out of Silicon Valley. But, pressed

by losses in real estate and other problems, insurers are giving up their hide-bound ways.

Aetna Life & Casualty Co., for example, has completely overhauled the process of issuing a policy. A year ago, Aetna had 22 business centers, with a staff of 3,000. It took about 15 days to get a basic policy out of the office, in part because 60 different employees had to handle the application. Now, the operation has been pared down to 700 employees in four centers—and customers get their policies within five days. How? Because a single rep sitting at a PC tied to a network can perform all the steps necessary—calling into an actuarial data base, for example—to process an application

immediately. When all the relevant information is gathered, the policy is passed along the network to headquarters in Hartford, where it's printed and mailed within a day.

MORE WITH LESS. The technology has also given Aetna's sales force more autonomy. The old hierarchy of supervisors and agents has been replaced by work teams of about 17 people. At Aetna's Tampa office, the new system for issuing policies will save \$40 million and improve productivity by 25% this year, according to Bob Roberts, who heads the office. Adds Aetna Chairman Ronald E. Compton: "Reengineering helps us solve that modern business dilemma—how to do more with less, and do it better."

That's what banks must do, as well. The first step toward automation was, of course, the now-ubiquitous automatic teller machine. More recently, banks have boosted their bottom lines by simply farming out costly information-processing jobs, such as check processing. Today, about half of the nation's check processing—once the mainstay of the bank back office—has been farmed out to more efficient specialty firms, such as Electronic Data Systems Corp. and Perot Systems.

Now, banks are using technology to make their front-office workers far more efficient. At Cleveland's Society National Bank, for example, routine customer-service work has been automated so that 70% of phone calls are handled through a voice-mail system. That frees customer-service reps to help depositors who really need a human's assistance. And laptops have liberated loan officers from their desks. "If you call us and say you want to refinance," says Executive Vice-President Allen Gula Jr., "we meet you in your parking lot at lunch."

But the real challenge for financial institutions will be to get rid of the millions of tons of paper—from checks to loan applications—that soak up millions of employee hours and add billions of dollars to costs. One possible solution is image processing. Some big insurers already use these setups to move digital pictures of documents through their offices at the speed of electrons, rather than at the speed of the guy from the mail room. In addition, many workers can look at a document simultaneously. **INERTIA.** Fannie Mae hopes to sharply cut costs of mortgage applications by banishing paper. It's linking 3,000 lenders by computer and developing software that will cut processing time by putting the whole operation on computer networks. Today the average cost of processing a new loan is \$5,337, or 4.1% of the loan amount. But the most efficient lenders can do the job for half that. Their secret: slashing paperwork. "The technology exists," says Rain. "It's a matter of overcoming the inertia."

Perhaps nowhere in the service sector has information technology had more of an impact than in retailing. In the 1980s, Wal-Mart Stores Inc. leaped to No. 1 in the U.S. retail business by keeping prices low, its stores better stocked, and its inventories tight. Its not-so-secret weapon was technology—including satellite networks linking each point-of-sale terminal to distribution centers and headquarters in Bentonville, Ark., tracking every sale to see what's selling and what's sitting, Wal-Mart avoids costly markdowns to inventory.

Now, scores of retailers are following

COLUMBIA PRESBYTERIAN HOSPITALS ARE USING COMPUTERS TO HELP CURE MEDICINE'S INEFFICIENCY



PHYSICIAN, REENGINEER HIMSELF

Dr. James J. Cimino had a problem. To find out if his patient's confusion was a sign of neurological disease, Cimino needed to test the man's spinal fluid. But scheduling a visit to Columbia Presbyterian Hospital's busy neurology unit was difficult. So he made a note in his computer: Order

a spinal tap the next time the patient's chronic heart condition brought him to the New York City hospital's emergency room. Two weeks later, the patient was there. And yes, having read Cimino's note—which was stored with the patient's records in the hospital's computer system—doctors did the spinal tap.

The case exemplifies how reengineering hospitals with sophisticated computer networks can help cure one of medicine's worst ills—inefficiency. "Up to 40% of all hospital costs are related to the generation and storage of information, so it makes sense that information technology can improve efficiency," says Dr. William M. Tierney of Wishard Memorial Hospital in Indianapolis.

Wishard now requires doctors to order all drugs and treatments for patients via computer. The system then automatically warns of potential problems, such as allergic reactions or duplicated tests. Doctors tend to make fewer mistakes and order fewer tests. The result: Costs per patient are \$900 less. "To stay competitive," concludes Tierney, "doctors really have to get into the electronic medium."

By John Carey in Washington

ON THE CONTINENT, A NEW ERA IS ALSO DAWNING



When it comes to information technologies, the 1980s seemed to last longer in Europe than in the U.S. By 1990, recession and rising global competition were forcing U.S. corporations to question their use of technology. In Europe, however, companies

were still laying plans to move into the unified market and into Eastern Europe. As businesses expanded, so did computer budgets.

By now, a new era has dawned on the Continent: a period of slow economic growth and unprecedented competition. And that's bad news for the computer salesmen who used to find companies such

as Sweden's ICA Handlarnas in shivers for new gear. By the early 1990s, as Sweden prepared to join the European Community, the Stockholm-based \$7.9 billion food cooperative was worried that competition would grab market share and crimp its profit margins. A streamlining was in order, and ICA's information systems would have to play a role.

Up until then, all those computers had done little to help the bottom line. In fact, because the three regions couldn't share their data, the movement of goods to retail stores was inefficient, and the regional offices sometimes ran marketing campaigns at cross-purposes with one another. To straighten things out, ICA hired Andersen Consulting.

Today, a "reengineered" ICA has closed all of its 3,350 retail stores to a single mainframe data base. With inventory data more readily available, the company has been able to shut a third of its warehouses and distribution centers and has halved its overall staff. It slashed the wholesaling workforce of 5,000 by 30% over three years, even as revenue grew more than 15%. More job cuts are planned, but the cuts aren't merely in cost reduction. Now that we have the infrastructure,

we can focus on the best way to organize the work," says Torsten Engevik, director and chief information officer at ICA. He's fine-tuning marketing with data on every sale and may eliminate invoices entirely by paying suppliers for goods as they enter a warehouse.

SLIPUPS. ICA is hardly alone. Other European companies that are jumping on the reengineering bandwagon range from Britain's Reuters Holdings and Rolls-Royce Motor Cars to Union Bank of Switzerland, Ciba-Geigy, and Siemens. "As competition heats up, they're seeing the need to rethink what they're doing," says William Barnard, managing partner in Europe for Andersen Consulting's strategic management practice. In Europe, Andersen now competes with outfits such as Oasis,

The companies doing the most reengineering are those that face new competition, whether through deregulation or the single market. Retailing, financial services, and telecommunications are ahead, while auto, steel, and machine-tool makers are lagging. Sometimes, as in Italy and Germany, strong unions stall reengineering. Then there are cultural factors. Pride in their craft keeps German workers from embracing change, says Gunter Conrad, a partner at Andersen Consulting in Munich: "When you used to be the best manufacturers in the world, it is sometimes difficult to admit that other ways of doing things might be better."

The cultural impediments in Europe are nothing compared with those in Japan. Its bloated corporations could



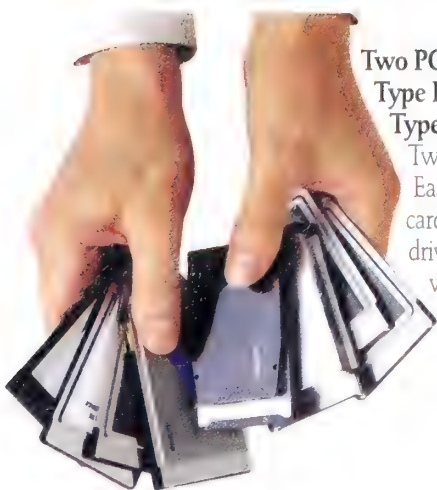
BMS Bossard, and Index Management.

As in the U.S., a major reengineering goal is improving relations with customers. In 1990, John Parcell, managing director of Reuters' British arm, was deluged with customer complaints. The problem was that several departments were dealing independently with subscribers of Reuters' information service. There were too many slipups, and Reuters was losing market share. Parcell decided to reorganize his separate marketing, sales, and installation departments into a multitude of three-person teams. Now terminals are installed in less than two days, down from five, and they're up and running in a matter of minutes.

be far more efficient, says Yotaro Suzuki, senior vice-president of the Japan Institute of Office Automation. "But reengineering would require changing basic facets of the Japanese business environment and culture."

"Different countries and industries are not just going to adopt the North American model," says James E. Short, assistant professor of information management at London Business School. Ultimately, Europe and Japan will have to find their own paths to the productivity targets being set by economic competitors in the U.S. and elsewhere.

By Fred Guterl in London, with Jonathan B. Levine in Paris and Neil Gross in Tokyo

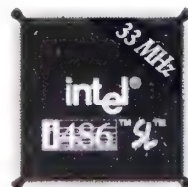


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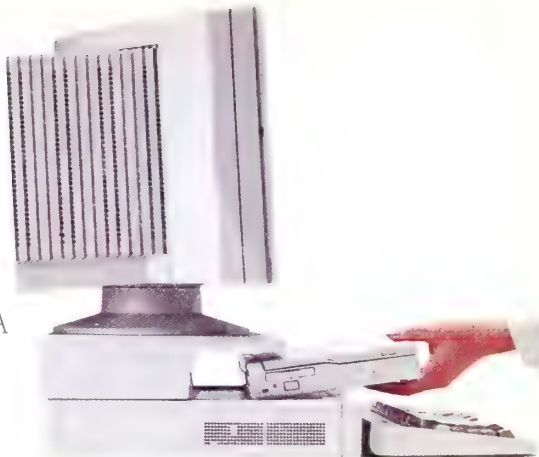




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Special Report

in Wal-Mart's footsteps—because they must. At Detroit-based Frank's Nursery & Crafts, managers can use wireless handheld scanners to check inventory on the store shelves. It can even add stock in stores where the weekend weather forecast is good. Pressure is coming from manufacturers as well. To make its retailers more efficient, Levi Strauss & Co. created its own inventory tracking system. According to Paul Benchener, Director of Global Quick Response, the results have been handsome. About half of Levi's 100 biggest accounts use the system and, for them, sales shot up 24% last year. At the other big stores, sales rose a paltry 3.6%.

The future? Ask John W. Fitzgerald, vice-president of information services at McKesson Corp., the na-

These information systems are now snowballing as more and more suppliers and vendors get on the networks. Strawbridge & Clothier, a Philadelphia retailer, has been getting rid of vendors that are not hooked into its point-of-sale systems. "They couldn't compete," says Corporate Vice-President Thomas S. Rittenhouse.

The new links even hold out the promise of revival for U.S. clothing manufacturers. Apparel makers took a terrible beating in the 1980s from low-cost Asian producers. Jobs dried up, fac-

ficiently and accurately. So where's the product?"

For such improvements to really permeate the all-important service sector, hundreds more companies will have to get on board. Many will first have to undo what they did in the 1980s, says Steven Walleck, a director at McKinsey & Co. "The people who were throwing capital at the issue of labor productivity got the cart before the horse," he says. And now, "a lot of wreck-and-rebuild is required."

Before it's over, we may not recognize

HIGH TECH KEEPS A RETAILER FROM WILTING

It's a jungle out there in retail land. And the only way to stay ahead is to keep the customers happy, the inventory fresh, and the checkout lines short. That's why Frank's Nursery and Crafts Inc. has reworked its 287 plant and crafts stores with the help of the latest information technology—including wireless scanners and a satellite network.

Workers used to spend hours every day laboriously recording the status of thousands of craft items and plants. A year ago, they got handheld scanners to read universal product code labels on merchandise as they roam the aisles. If an item is out of stock, they can transmit orders to headquarters right on the spot. That has eliminated cumbersome paperwork and cut by 75% the time spent replenishing inventories. The payoff: more time for such tasks as teaching clerks about the products.

Technology solved another problem, too. Frank's used to be plagued by long checkout lines. The culprit: card authorizations via a credit-reporting agency. Getting through

FRANK'S NURSERY SCANNERS AND SATELLITES REDUCE PAPERWORK AND MAKE FOR SHORTER CHECKOUT LINES



on the phone took up to 45 seconds. To solve the problem, Frank's installed a \$4 million satellite system connecting its stores directly with Visa USA Inc. Now, authorization comes in a mere seven seconds. Better yet, cutting out the middleman's fees paid for the satellite system.

The satellite link handles other chores, too. For instance, headquarters can control advertising messages piped in over in-store speakers. It can even select background music and control the volume at each location.

By David Woodruff in Detroit

tion's largest distributor of pharmacy and health and beauty-aid products. McKesson has been using computerized inventory systems for more than a decade. And Fitzgerald thinks he already sees the next wave of productivity-enhancing change: systems that tightly link customers, retailers, distributors, and manufacturers. Instant response means less money spent on interest charges, idle plants, and inventory build-ups. The paper invoice will go the way of the quill pen. "We're going to have a seamless network. It will be transparent to everybody, and all without paper."

tories closed. But reorganizing around the new networks has brought the industry fresh hope. Levi's, for example, is replacing its 19th-century piecework system with new, team-based production. The objective is to start building the clothing that has actually been ordered instead of piling up sleeves and pants legs for garments that might never be needed.

At the same time, Levi's is planning to upgrade its national distribution system. Retailers, says Levi's Benchener, "started demanding more efficiency. They said: 'We can get orders to you more ef-

the workplace. Technology is turning sales reps into designers and production workers into engineers. It is wiping out whole layers of managers and emptying warehouses. Says Ford Motor Co. engineer Peter R. Sferro: "We won't need draftsmen, designers, purchasing agents, or even mold makers."

That will mean big changes for workers. Those who survive the downsizing, says Bergstein of Technology Solutions, "will have more tasks, more responsibility, and more information to work with. They should earn more money as well. According to Princeton University eco-

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omist Alan B. Krueger, workers who use computers earn an average of 10% to 15% more than those who don't, even for the same job. Secretaries who use computers, for instance, enjoy a premium of up to 30%. And, says Krueger, the differential has held up despite a big increase in the number of workers with computer skills.

And those who don't get those upgraded new jobs? One possibility is that they'll decline into an expanding underclass. But that, too, may be a short-term phenomenon. Technology may actually close the gap between the technoworkers and the less skilled. New graphical programs, such as software written for Microsoft Corp.'s Windows, are making computers more accessible to millions of workers.

Where will the work come from? "Farmers asked the same question in the 1800s, and sweatshop workers asked it in the early part of this century," says Morgan Stanley's Roach. "In each of those times, the system was flexible enough to come up with new job-creating solutions." After all, a decade ago, Microsoft employed 300 people. Today, the number is 15,000.

THE KEY. Major technological changes have always meant enormous upheaval for both economies and societies. But the U.S. will surely be far better off with technology-driven productivity gains than without them. Improved productivity is still the only way we know to boost a nation's standard of living. And U.S. productivity gains, in turn, can come only from technology and the workplace changes it spawns. "It's absolutely unambiguous," says Columbia University economist Frank R. Lichtenberg. "Productivity gains are crucial for our long-term economic well-being."

That's especially true in an era of intense international competition. If U.S. companies don't take advantage of technological and management innovation, their foreign competitors will. The same reengineering wave that is transforming American business is building in Europe (page 61) and could someday spread to Japan.

More than macroeconomic policy, international trade agreements, and even access to natural resources, the ability to harness extraordinary technological change will define economic winners and losers in the foreseeable future. And it appears that, after a decade of trying, American business may finally have the key to the new industrial revolution.

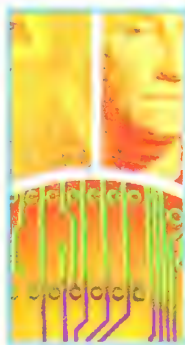
By Howard Gleckman in Washington, with John Carey in Washington, Russell Mitchell in San Francisco, Tim Smart in New Haven, Chris Roush in Tampa, and

John H. Johnson

ASSEMBLING
MODEL As IN
THE 1930s



GAUGING OUTPUT: IT'S NOT JUST COUNTING WIDGETS ANYMORE



products improve and prices drop? Or a hospital, where no one is even sure what output means?

The U.S. is using a Model A system to calculate the performance of an Intel 486 economy. The government uses a simple definition of productivity: inflation-adjusted output per hour of work. The problem is the way output is gauged—essentially, the value of goods sold less the cost of goods purchased. When the statistical system was devised in the 1930s, goods-producing industries accounted for 57% of output and 40% of the nonfarm jobs. But by 1992, goods accounted for just 40% of output and 22% of employment. In some fields, such as financial services, government statisticians simply can't define just what is being sold.

None of this would matter much if investors, business planners, and policymakers didn't depend on productivity numbers. As the Clinton Administration dabbles in industrial policy, it will inevitably look to productivity numbers to pick winners and losers.

Three separate problems distort the data: Government lumps industries in groups that make no economic sense,

so the same amount of information provided for buggy whips (SIC 319) as for microprocessors (SIC 3674). The Bureau of Labor Statistics (BLS) gives data for 17 categories of apparel manufacturing but only one for computers. Also, the measurement of output, especially in services, often amounts to little more than an informed guess. And statistical agencies' budgets have been squeezed so hard that they have trouble producing data on schedule.

GO FIGURE. A major revision of the data classifications is under way, but will take years to implement. Even then, fundamental conceptual problems will need to be tackled. For instance, in an information economy, intellectual property is a key output. You'd never know it by how we evaluate software. Exports are valued at the cost of the disks and the manuals, so a \$500 program might be entered at just a few dollars. And the understanding of service output is so poor that despite the financial-services boom of the early and mid-1980s, the government data show the finance sector grew more slowly than the overall economy.

"If we're going to measure output, we first have to figure out what it means," says former BLS head Janet L. Norwood. One of the biggest problems, she notes, is adjusting data for qualitative changes. In the late 1980s, a major government effort resulted in a new way to measure the value of computers that accounts for their increasing power. That helped, but many other improvements are devised, investors and government planners may be flying blind into the 21st century.

*By Stephen H. Wildstrom
Washington*

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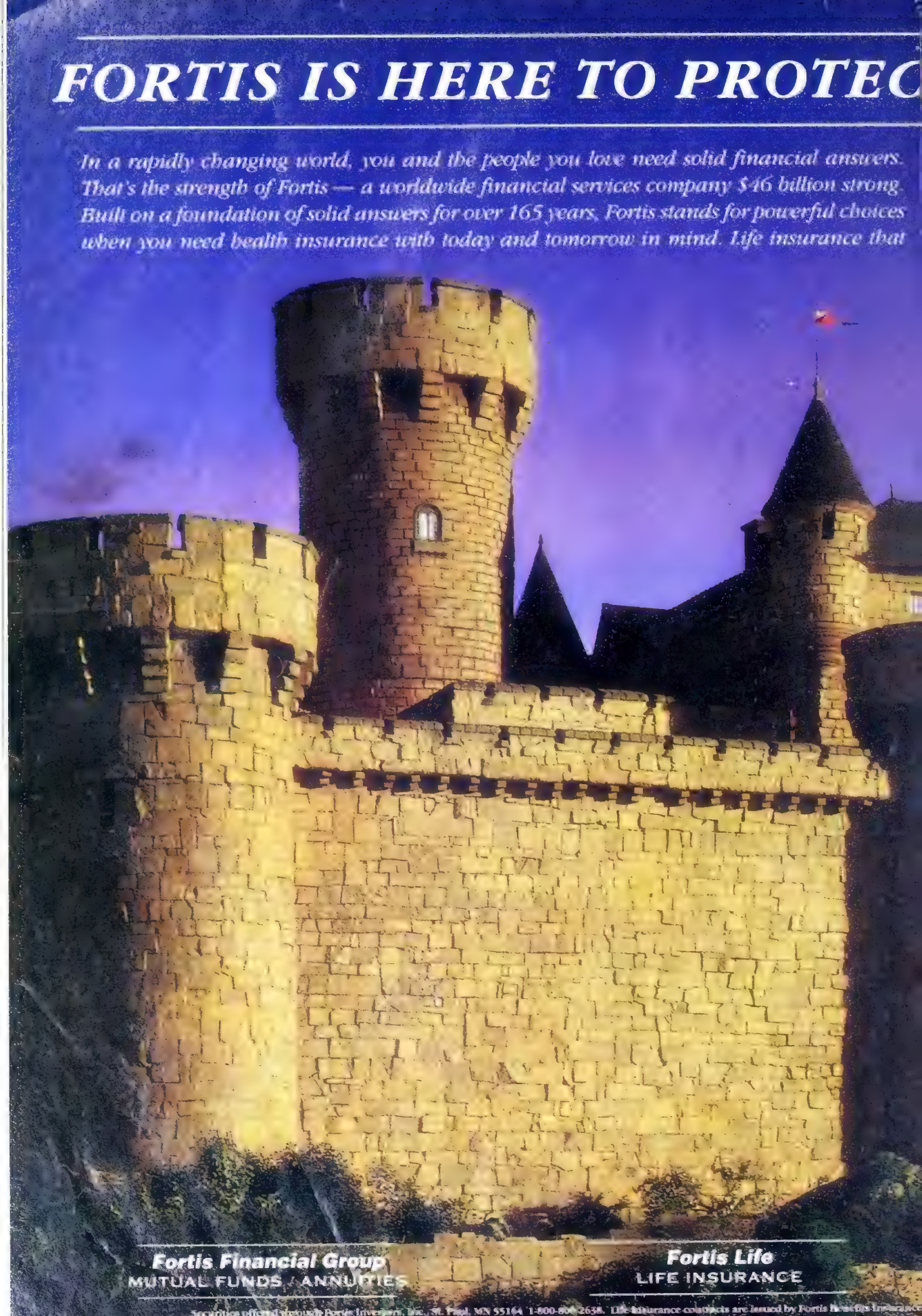
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NEW HIRING SHOULD FOLLOW PRODUCTIVITY GAINS



Revolutions are always bloody, and the productivity revolution is no exception. As companies large and small embrace new technologies and eliminate jobs, millions of workers are finding that their old careers are becoming obsolete. In just the past year, even as the economy

grew by some 2.6%, more than 500,000 clerical and technical positions disappeared, probably forever. And better information systems are eliminating the need for lots of middle managers. It's no wonder that so many Americans are distressed: They see their paychecks lagging inflation, and they worry about joining their families and friends in the ranks of the unemployed. To these folks, the productivity revolution is a threat, not a boon.

Yet history offers striking evidence that technological revolutions eventually create many more jobs than they destroy. For every horse-carriage manufacturer or linotype operator sidelined by technology, new industries and job skills have been created. That has certainly been true for innovations such as electricity in the 19th century and the automobile in the early 20th century, which brought forth vast new industries employing millions of people. "Over the past 200 years, there's been no tendency toward rising unemployment because of people being kicked out of jobs by machines," says Joel Mokyr, an economic historian at Northwestern University. "It hasn't happened—not here, not in Europe, and not in Japan."

This reassuring historical perspective offers cold comfort for an unemployed manager or secretary who has to somehow meet the next mortgage payment. For the short run—that is, in the next several years—the employment picture is mixed. With companies such as Aetna Life & Casualty Co. and Sears, Roebuck & Co. using new technology to slice

back-office employment, the economy is unlikely to produce a bonanza of new jobs. Few economists expect the unemployment rate, which is now stuck at 7%, to drop sharply until 1994, at the earliest.

Still, the productivity boom of the 1990s is already spawning the beginnings of new job-creating industries. The first signs of employment growth are visible in computer-related areas. The number of jobs at companies that supply software and data-processing services has grown by 120,000 over the past four years. And corporate customers, hungry for help in reorganizing their businesses around the latest information technology, are boosting employment at management consultants such as Andersen Consulting, which has grown by about 30% since 1989.

SPENDING POWER. The computer and software industries will supply only a small part of the new hiring, however. Rising productivity eventually will spur job creation in a broad swath of industries, ranging from entertainment to education to scientific research. The reason: Faster productivity growth means that per-capita income will start increasing again after years of stagnation. Consumers will enjoy rising real incomes and will be able to spend more on non-essentials, such as entertainment and travel. Companies, flush with higher profits, will be able to invest more in research and development. And more money will be available to address such pressing social problems as pollution and decaying schools.

The productivity bonanza won't stop there. In a classic example of a virtuous cycle, automobile companies, steel manufacturers, and drugmakers will be able to turn out products more efficiently and thus hold down price increases. Stable prices should dampen inflationary pressures and keep down interest rates, spurring long-run investment. And U.S. goods and services will become more competitive in world markets, creating new export opportunities.

All this economic activity could generate millions of new jobs. Restoring the

SPENDING THE PRODUCTIVITY DIVIDEND: A SHOPPING

Productivity inevitably translates into better economic performance in the long respect. But the ultimate impact will be manifested in a variety of ways.

REAL WAGES ARE STILL STAGNANT



RISING REAL WAGES. In the 1960s, productivity gains from the productivity revolution showed up in bigger paychecks. So far this decade, real wages have stagnated as productivity begins to

HIGHER CORPORATE PROFITS AND STOCK

Corporate cost-cutting and a boost in low interest rates have sent profits soaring by 25% since 1991, helping push the market to record levels.

LOWER INFLATION AND INTEREST RATES

competition is keeping inflation low. Inflation means low interest rates, which has poured billions of dollars into the pockets of businesses and homeowners.

SHORTER WORK HOURS

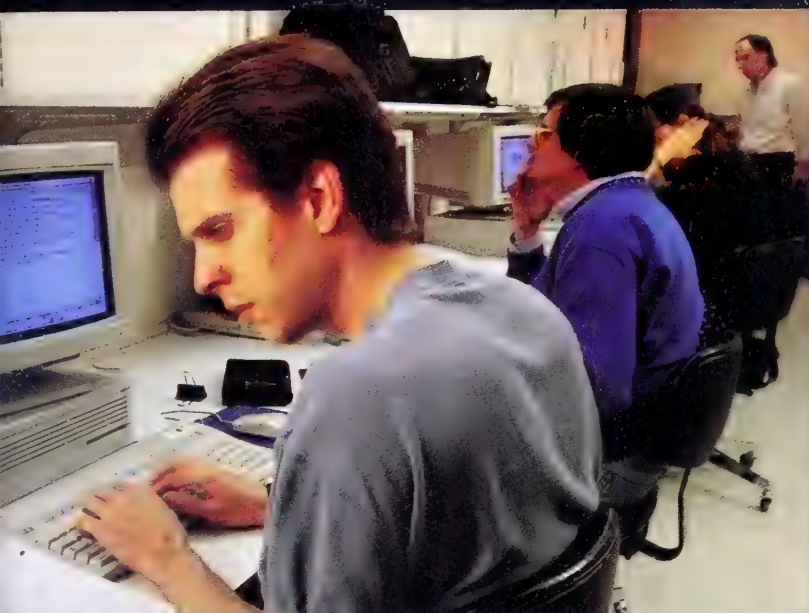
Although Americans feel like they're working harder and longer, when productivity rose in the 1970s in France and Germany, it enabled workers there to cut back on their hours and take more holidays. Americans may yet do similarly.

INCREASED PUBLIC SPENDING ON HEALTH

EDUCATION, AND ENVIRONMENT. Richer countries spend more money on such goods as health and education. That's where much of America's productivity gains went in the 1980s.

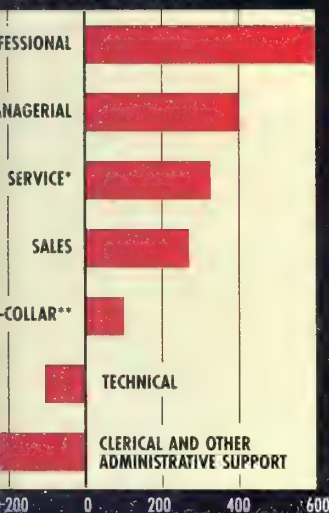
long-term productivity growth rate to its 1960s levels—around 2% annually—would boost national output by 10% more than it would otherwise grow over the next decade. That would give the U.S. an additional \$600 billion or so to spend each year. To get an idea of the number of jobs this sum could produce, look at state and local governments. They spend \$850 billion annually to educate and employ about 16 million people.

MOVIES AND MUSEUMS. One big winner from higher productivity and rising affluence could be the entertainment and recreation industries. Consumers with annual incomes over \$50,000 devote nearly 6% of their spending to ent



TECHNOLOGICAL CHANGE IS RESHAPING THE LABOR MARKET ...AND WHO'S HIRING

CHANGE IN NUMBER OF JOBS:
THIRD-QUARTER '92 TO FIRST-QUARTER '93



FOOD SERVICE, AND JANITORIAL NONSUPERVISORY JOBS
CONSTRUCTION

PERCENT INCREASE IN EMPLOYMENT
OVER LAST FOUR YEARS



DATA: BUREAU OF LABOR STATISTICS

ment, compared with 4.5% for average Americans. So as overall incomes rise, a whole range of leisure-time industries may expand sharply. That has already started. Over the past four years, employment in the movie-production industry has jumped by almost 30%, to 500,000, far outpacing any other sector in the economy (chart). Real spending on recreational activities such as participation in sports has risen by about 9%, almost double the rate for all other consumer spending. Walt Disney Co., which serves the whole range of leisure-time pleasures, has by itself added 19,000 workers since 1988. The same economic calculus applies

to cultural activities, which are luxuries a poor economy can't afford. Spending on books, adjusted for inflation, has gone up sharply, by more than 16%, over the past few years, as has employment in bookstores. The number of people who are employed as writers, musicians, and artists has risen by some 20% since 1988, to 535,000. Museums and other cultural institutions, too, have been adding new workers throughout the recession far faster than the rest of the economy has.

The education industry, too, will likely do a lot of hiring in the years to come. As the rising productivity boosts per-capita income, people will become

even more willing to spend on education: According to the Labor Dept.'s Consumer Expenditure Survey, spending on schooling rises faster than any other category as income goes up. Older workers will return to school to get the computer skills they need in the new economy. In addition, K-12 enrollments are anticipated to rise by 10% over the rest of the decade: Already, increasing school enrollments have generated 700,000 new education jobs since 1989.

As hard as it may be to believe at a time of government budget cuts and increasing taxes, rising productivity will also enable the U.S. to afford more public spending on the environment, education, and scientific research, which will generate a whole new set of jobs. This could reverse the trend of the past two decades, when stagnant incomes sapped popular support for public investment and social programs. "With an additional \$630 billion per year, we could substantially increase support for all areas of scientific inquiry, even as we consume more and address any number of serious social problems," says Paul Romer, an economist at the University of California at Berkeley who specializes in growth.

SHUTTERED WALLETS. There's a rub, however: Most of the new jobs won't be created until Americans start feeling rich enough to open their wallets. So far, that isn't happening. Despite the recent gains in productivity, real wages and salaries have stagnated for the past four years (chart), with high unemployment making it hard for workers to push for pay raises. Indeed, according to the latest figures from the Bureau of Labor Statistics, executives and managers have actually absorbed a decline in earnings, adjusted for inflation, over the past year.

For now, productivity improvements are being reflected elsewhere—in slower inflation and lower long-term interest rates, and in higher corporate profits and a record-high stock market (table). In the past, when profits rose high enough, "prices fell and real wages rose," says Albert M. Wojnilower, senior adviser at First Boston Asset Management. This time, he adds, "it isn't happening."

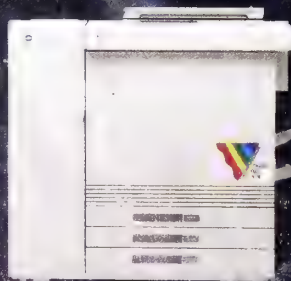
So far. If history is a reliable guide, rising productivity will eventually lift the living standards of most Americans, not just those of software engineers or stock market investors. It took time for companies to finally figure out how to use new technologies in ways that dramatically boost output and lower costs, and it may take time for these gains to show up as higher wages and better jobs. But when the payoff comes, it will have been well worth the wait.

By Michael J. Mandel and Christopher Farrell in New York

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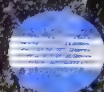
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THE POWER OF SOFTWARE

NEW APPROACHES ARE STARTING TO GET BIG RESULTS



In 1990, millions of office workers began playing a mind-numbing card game on their personal computers. Packaged with a hot-selling new version of Microsoft Corp.'s Windows program, Solitaire proved so distracting that Boeing Co. and other companies

removed it from all their PCs. "It sure blew peoples' productivity," admits Wes Cherry, the Microsoft programmer who developed it. But then a funny thing happened: When useful applications for Windows arrived, workers had already mastered clicking and dragging on-screen objects—skills honed with Solitaire. Recently, the game won an industry award for its "foresight" in getting people to use mouse pointing devices.

The Solitaire episode illustrates a lesson that Corporate America learned the hard way in the 1980s: No matter how powerful the computer or how far-reaching the information network, it means little if the average office worker can't use it. Improved software is key to making information technology accessible and businesses more productive. Compared with workers using ordinary software, those using a "graphical user interface" such as on Windows or Apple Computer Inc.'s Macintosh can accomplish twice as much in a given time, according to the Center for Advanced Technologies, a Fairfax (Va.) research lab run by American Management Systems Inc., a computer-services company.

The graphical interface is just one example of software technology that can boost productivity. Equally dramatic results stem

from networking programs, imaging technology, and relational data-base systems. And just on the horizon are potentially huge gains from innovations such as object-oriented programming, a method for creating intuitive software out of prefabricated "objects" that behave like objects in the real world.

In terms of increasing productivity, networking may be the most important shift. Some 60% of all business PCs in the U.S. are now able to trade files, documents, and electronic mail with others on a network.



HOW IT ALL COMES TOGETHER

Four key technologies drive productivity gains:

GRAPHICAL USER INTERFACES

These make computers intuitive, easy to use. A graphical object on the screen—a "file folder," for instance—has the attributes of the real thing.

NETWORKING SOFTWARE

Groupware allows far-flung groups of workers to collaborate on a network, sharing schedules, electronic mail, memos, and reports.

FLEXIBLE DATA BASES

Relational data bases bring together all the data in an organization in a form that can be shared by lots of workers. It also can instantly reflect changes each time, say, a sales clerk enters a transaction.

IMAGING

Imaging software converts paper to digitized pictures. An insurance claim form can be read simultaneously by the adjuster and by a supervisor. And images move throughout the organization of the screen of electrons—out of the realm of the mind to the realm of the machine.

up from 35% in 1990. Using the software correctly, workers on a network can do in a day what would otherwise take them five, says G. Michael A. more, a vice-president at CSC Index I a Cambridge (Mass.) consulting firm.

Indeed, networking software can be instrumental in reengineering work processes by delivering information directly to the workers on the front lines. It helps break down the old corporate pyramids. "Networking fits the new management model," says Craig Burton, former Novell Inc. executive who heads the Burton Group, a Salt Lake City search firm. He believes that groupware programs, such as Lotus Development Corp.'s Notes, will take the technology even further, allowing co-workers to process information more intelligently.

SLICE AND DICE. Other productivity boosters include imaging and work-flow software. In essence, these technologies reduce paper to digitized images. Documents zip through the organization instantly, rather than from in-basket to in-basket. That can increase productivity by 20% to 60% in a bank or other paper-intensive business, says Michael H. ard, a consultant at Gart Group Inc. in Stamford, Conn. And thanks to powerful new PCs, he says, the cost per worker for an imaging system has dropped from \$25,000 to \$10,000 since 1990.

New data-base programs increase efficiency. Oracle Systems, Sybase, Informix, and others sell so-called relational databases that put information in a format flexible enough for programmers to slice and dice. This has changed the face of retailing: A relational data base lets a chain know when to send out yellow sweaters to wholesalers—and when to shift to blue.

In the future, software will be even easier to create and use, thanks to object-oriented programming. At the Center for Advanced Technologies, individual programmers are achieving 10% leaps in productivity via software methods, says Jerrold M. Grover, the lab's director. But a larger payoff, he says, will come when groups of 100 or more programmers learn to share objects. Yet another technology promises to help people collaborate better. Even for programmers, Solitaire won't suffice in the age of network computing.

By Evan I. Schwartz in New York

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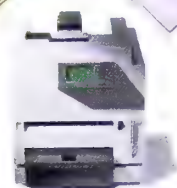
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THE PRODUCTIVITY PACESETTERS

To find the companies with outstanding records in improving productivity, we started with the domestic companies in the Standard & Poor's 500-stock index, except for banks and other lending institutions. Companies were grouped by industry and their sales-per-employee compared with their industry. We also adjusted sales over the past 10 years for inflation, then computed real growth in sales-per-employee over the past 10 years and 5 years. Where acquisitions or divestitures distorted the figures, we excluded those years from the 5-year computations or excluded the companies altogether. This list includes companies whose 1992 sales-per-employee were at least 125% of the industry average and that show productivity growth for both the 10-year and 5-year periods. The companies are ranked by their 5-year growth in productivity.

COMPANY	EMPLOYEES		SALES		SALES PER EMPLOYEE				Operating income 1992 (Millions)
	Total full- & part-time 1992	5-year % change (Annual rate)	Total 1992 (Millions)	5-year % change (Annual rate)*	Total 1992	As % of industry average	5-year % change (Annual rate)*	10-year % change (Annual rate)*	
GEN	2,335	45.9%	\$1,093.0	82.4%	\$468,111.8	241%	28.0	74.4%	\$563.1
YL	6,300	-8.8	2,975.0	7.2	472,227.0	263	17.5	11.5	444.5
EL	25,800	6.1	5,844.0	24.3	226,510.9	171	17.7	16.0	1,568.5
MICROSYSTEMS (6)	12,800	25.1	3,588.9	45.3	280,381.6	149	18.2	17.1 ⁶	254.9
ITY (1)	14,026	-3.0	3,374.5	10.9	240,588.9	155	18.3	12.1	45.0
DE RITE (11)	3,100	-4.5	585.9	8.1	189,008.4	136	17.1	14.9	100.2
RE (10)	34,524	-1.9	6,846.7	9.9	198,317.1	128	12.0	6.5	52.1
ING	142,000	-0.2	30,184.0	10.5	212,563.4	135	10.8	5.2	2,256.0
AS UTILITIES	10,687	-7.9	4,907.9	1.2	459,237.9	127	8.8	5.9	920.1
MET (5)	1,606	24.7	274.8	36.7	171,105.2	126	9.4	8.0 ⁹	76.5
GENERAL ELECTRIC	268,000	-2.4	56,274.0	6.8	209,977.6	128	9.3	10.1	6,326.0
KEY BOWES	28,958	-0.3	3,434.1	8.1	118,589.8	125	8.5	6.9	495.4
E (5)	6,500	16.7	3,405.2	26.7	523,878.6	376	8.5	8.0	521.8
FOR	5,800	4.7	1,619.2	13.0	279,178.4	138	7.9	6.4	117.3
KIN-ELMER (7)	6,085	-2.4 ³	911.1	5.2 ³	149,732.8	131	7.8	6.3	78.2
LOGG	16,551	-1.4	6,190.6	6.0	374,031.6	224	7.6	7.9	1,070.4
DAHL	8,764	2.8	2,524.7	10.2	288,080.1	153	7.7	12.9	-14.0
CONNELL DOUGLAS	87,377	-4.9	17,373.0	1.9	198,828.1	126	7.7	3.6	1,086.0
DUDE MEDICAL	684	18.2	239.5	26.5	350,214.9	258	6.9	8.4	136.5
	6,500	-1.5	3,503.0	5.1	538,923.1	215	6.7	13.5	227.0
IMINS ENGINE	23,400	-0.9	3,749.2	5.6	160,222.2	134	6.6	5.6	76.4
IRLPOOL	38,520	4.8	7,301.0	11.6	189,537.9	139	6.5	4.4	359.0
MPAQ COMPUTER	9,500	18.9	4,099.8	26.6	431,553.4	229	6.4	9.1 ⁹	310.6
STMORELAND COAL	1,195	-8.9	538.9	-3.3	450,923.8	377	6.1	7.6	-36.0
CORP	16,736	-0.6	7,984.0	5.1	477,055.4	132	5.9	2.6	1,247.0
OLPH COORS	7,100	-6.4	1,550.8	-1.2	218,420.8	207	5.8	3.8	58.6
AROID	12,359	-2.0	2,152.3	3.4	174,148.4	129	5.5	5.8	163.1
PER TIRE & RUBBER	7,207	4.7	1,174.7	10.5	162,998.2	129	5.5	4.5	169.8
ERPILLAR	50,749	-1.4	10,194.0	3.8	200,871.0	129	5.3	5.5	-332.0
YSLER	128,000	-1.6 ²	35,501.0	6.5 ²	277,351.6	125	4.8	4.4	934.0
CK	38,400	4.3	9,662.5	9.3	251,627.6	130	4.7	6.6	3,595.8
LE COMPUTER (9)	14,798	15.4	7,086.5	20.9	478,884.9	254	4.7	9.6	855.4
VELL (10)	3,637	26.2	933.4	31.9	256,631.8	141	4.6	3.6 ⁷	377.3
COMMUNICATIONS	31,000	16.8	10,562.0	22.1	340,709.7	157	4.5	4.7	963.0
RICAN INTERNATIONAL GROUP	33,000	1.3	19,441.1	5.4	589,124.2	133	4.3	7.2	2,137.0
ON	95,000	-1.0	103,160.0	3.0	1,085,894.7	149	4.0	8.2	7,534.0
ARD DEPARTMENT STORES (1)	33,883	9.9	4,883.2	11.5	144,120.4	126	1.5	0.8	375.3
ITY-KLEEN	6,800	11.8	794.5	13.3	116,844.4	137	1.4	0.0	74.3
ICO	37,582	-2.6 ⁴	36,812.0	-1.4 ⁴	979,511.5	134	1.3 ⁴	3.6	1,323.0
OLN NATIONAL	11,980	-3.6	8,034.1	-2.5	670,626.1	151	1.2	1.6	424.7
AE DEPOT (1)	38,900	33.7	7,148.4	35.1	183,764.3	182	1.1	3.5	576.0
ISTAR INTERNATIONAL (10)	13,945	-1.3	3,875.0	-0.4	277,877.4	125	1.0	7.8	-145.0
IEUSER-BUSCH	44,871	1.6	11,393.7	2.5	253,921.2	240	1.0	4.0	1,615.2
HEY FOODS	15,000	5.5 ⁴	3,219.8	6.1 ⁴	214,653.7	129	0.6 ⁴	12.8	401.0
IER DANIELS MIDLAND (6)	13,524	5.0	9,231.5	5.6	682,601.3	409	0.5	0.7	759.6
FINANCIAL	17,200	2.8	10,793.4	2.9	627,523.1	141	0.4	3.1	-1,375.0
500 COMPOSITE		0.2		2.8	162,549.8		2.6	2.3	

¹Year change ²Three-year change ³Four-year change ⁴Six-year change ⁵Seven-year change ⁶Nine-year change ⁷Adjusted for inflation
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DATA: STANDARD & POOR'S COMPUSTAT SERVICES, A DIVISION OF MCGRAW-HILL

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WHAT MAKES RYKA RUN? 'SHERI POE AND HER STORY'

A rape victim, she isn't shy about using her trauma to sell sneakers

"He reached over, pulled the door shut, pushed me down on the floor, and pinned me with one hand. He had me in this headlock. He said, 'I want you to feel in back of your head.' I did, and it was steel. He said, 'This is a gun, and you need to do everything I tell you to do. If you don't, I'm gonna blow your head off.'"

Sheri Poe isn't afraid to talk about the day 21 years ago when she was raped in a car near the campus of Southern Illinois University. In fact, she considers it therapeutic. The assault occurred during her freshman year at SIU, after she was picked up hitchhiking. It led to years of psychological trauma, punctuated by bulimia and financial collapse. By slowly coming to terms with what happened, Poe eventually recovered. And in 1987, she founded a sneaker company called Ryka Inc. to produce aerobic shoes designed especially for women.

Lately, the 40-year-old Poe has been telling her story to all who will listen. She has woven it into a potent marketing message that helped boost Ryka's sales by 53% last year, to \$12 million. Ryka is too small to attract much attention yet. But it will. While Ben & Jerry's Homemade Inc. and the Body Shop Inc. have led a growing number of companies to embrace "cause marketing" as the selling trend of the '90s, Poe's highly personal campaign has stretched the concept past all previous boundaries.

'WORK IT OUT.' The cynics, of course, will say that Poe has attached her intimate history to Ryka's marketing message in an exploitative effort to sell more sneakers. Poe responds that selling more shoes is merely a means to an end. She has pledged 7% of the company's profits to a fund called the Ryka ROSE (Regaining One's Self-Esteem) Foundation, which channels money to groups helping women who have been victims of violent crime. "There's no hidden agenda for me, except helping the women who are touched by violence

in overwhelming numbers," she says.

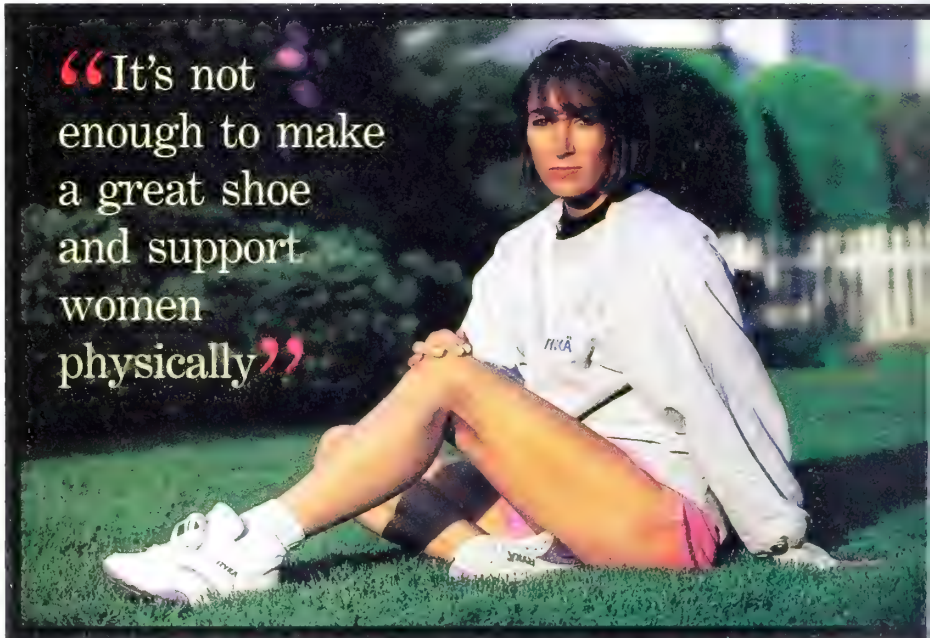
Ryka, based in Norwood, Mass., recently launched a hard-edged print advertising campaign that juxtaposes the image of a woman working out with another photo of a teary-eyed woman—presumably the victim of a violent crime. The copy reads: "Sometimes the only way to work it out is to work it out." The two-page spread, appearing in such magazines as *Vogue* and *Working Woman*, draws mixed reviews. Former Nike executive Kate Bednarski, who now runs a consulting firm called Dialogue Marketing Concepts Inc., says the

While Ryka remains tiny (Reebok, almost a one-third share, leads the billion market for women's aerobic, walking, and cross-training shoes), Poe's tactics are carving a convincing niche. Jennifer Black Groves, an athletic apparel analyst with Black & Co: "S Ryka's got a good, unique line of sneakers. But what's making Ryka work is Sheri Poe and her story."

Poe grew up traversing the country as the daughter of a retail-industry trouble shooter. Her family eventually landed in Illinois, and after high school headed for SIU. The rape occurred later in her freshman year. And when she speaks to women's audiences, that's where her story begins.

GOING PUBLIC. Poe reported the rape to the authorities. But, she says, police, doctors, and even a therapist blamed her for the crime because it occurred while hitchhiking to work. Ashamed, Poe kept the rape a secret, telling only her two brothers: "I tried to pretend it didn't happen." The result, she says, was deep emotional turmoil, which led to

"It's not enough to make a great shoe and support women physically"



ads and the foundation bring credibility to Ryka's claims to be working on behalf of women. But, she adds: "They almost go too far. The risk is she'll turn some people off."

Like it or not, the campaign is working. After six years of selling against giants Nike Inc. and Reebok International Ltd., Poe's company expects to grow another 53% this year—to more than \$18 million in sales. It also hopes to turn its first profit, giving a boost to the ROSE Foundation, which has so far gotten by with a \$250,000 grant from Poe herself and outside fund-raising.

bulimia and several other health problems.

Off and on for five years, Poe was hospitalized. She dropped out of college and moved to Florida to be with her brothers. Her health declined so severely that she couldn't keep the odd job she was working, and she wound up on welfare. Her saving grace, she says, was a doctor's warning that her constant bingeing and purging had wrought havoc on her body that she was impairing her chances of ever having children. She was 23 years old at the time. "Something snapped," she says.

She moved to California, where

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RESEARCH

the vice-president of marketing for a now-defunct company that made fitness-
scented down, the couple had two chil-
dren and Bob went to work for Birn-
baum's. "I was a sales rep. for Birn-
baum's for 10 years," she says. "The
sales that included walking, and later
services. The exercise helped me get in
touch with my body," she says.

It also helped her come up with an idea for a shoe that would be different from the styles on the market weren't designed with the narrow heel, or high arch typical of women's feet. Why not design a workboot shoe specifically for women? Bankers chuckled at the idea.

The Texas investment banker, also an avid tennis fanatic, bought the idea and convinced his firm to market the shoes to the public on the over-the-counter market. But not Birnfeld were partners. All that existed of the company then was a first design.

OPRAH-STRUCK. The company's sales have been strong since it began shipping in 1989. The and Dittus, meanwhile, got divorced and he left the company. She has three remarried and has had another child. Despite the distractions, she has kept Ryan's marketing focused. From the start, she trumpeted the fact that the company is the only producer of

(continued)

MATH GENIUS WITH LAB. WILL WORK FOR FOOD

Russian scientists are proving to be bargains for U.S. companies

When a key German customer of a Moscow-based firm needed a bug beep in its software in January, Sun needed a fix fast. For this emergency, it drew on a new reservoir of skill: Russia. A few experts in St. Petersburg quickly spotted the errant code, and within a few hours the Germans had their solution. "It worked great," a Sun manager said. Not in an experimental memo.

These data demonstrate the importance of the use of a validated instrument to measure the same constructs in the same experimental conditions. The results of the present study are consistent with those of previous studies. The use of a validated instrument is essential for the development of a valid and reliable instrument. The use of a validated instrument is essential for the development of a valid and reliable instrument.

R. Ditzel, acting director of Sun Microsystems' European operations, said that with its experience in the market, formed a second Russian partnership. "Mikro-Sputnik" is a company led by computer designer and Elvis Presley, Alexander Galkov.

The breakup of the Soviet Union has left a vacuum in the world's top scientific and technical centers, and Russia and the former Soviet republics are scrambling to fill it. American and Japanese electronics companies, such as Intel, Hitachi, and Toshiba, and U.S. and Japanese universities, have seized on opportunity and funded research in the former Soviet Union.

A year or so later, they've made a number of discoveries. Running a lab 6 miles from home is tough. The old Soviet system of research and development, with its communist-bred lack of initiative, is a problem. Still, U.S. companies are finding that the Soviet engineers are smart and give them new perspectives on their own work. "It doesn't necessarily mean a thing that came from the West," says Christopher G. Williams, a European manager at market researcher International Data Corp. "It could be just a piece of something like **'CHIP-DESIGN MINDS.'**" In the other U.S. lab in Russia, it's even harder to get the best of Soviet scientific research can't be run on like a faucet. But experts say Soviet scientists are in the right place at the right time. "The first computer company to tap into the Soviet market is the West," says Christopher G. Williams, a European manager at market researcher International Data Corp. "It could be a tremendous boost for it, certainly worth the risk."

The risks, in fact, are small. At 1990 prices, the cost of the 100-Mbps Ethernet solution is only \$1.5 million. And, as the network grows, the other half are working on software programs to streamline Sun's computer management and to develop a new language that machines understand. The other half are devoted to future research, such as the development of a new architecture for the network.



TAPPING INTO RUSSIAN RESEARCH

Sun Microsystems isn't the only U.S. company taking advantage of bargains in former Soviet hardware.

DEVELOPMENTS Sponsored 1992 British wide competition on themes of computer recognition of speech and printed characters. Employing British chess masters in artificial intelligence research.

■ Ten scientists in Miami, Belarus, are developing network management software for ATM systems.

3M TECHNOLOGIES Working with Moscow's Institute of Structural Mechanics on high-strength polymers.

CLIMATE Last month renewed a deal with 115 scientists in St. Petersburg to study topics and silicone chemistry

KIRKLAND BRANDS Used the Karchette Institute to conduct nuclear safety experiments on its world-class followed regulatory compliance reports.

NSF Bell Laboratories supports 120 fiber-optics researchers at the General Physics Institute in Moscow.



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would someday let computers run 10 times faster, rather than the 10% increment Sun is seeking in the short term. That's not just a dream. Robert W. Klough, managing director of Microsoft Corp.'s office in Russia, calls the Sun team "one of the best groups of software- and chip-design minds in Russia."

The story of Sun's Russian lab begins in 1991, before the failed August coup that propelled Boris Yeltsin into power and dissolved the Soviet Union. Boris A. Babayan, the father of Soviet supercomputing, found himself short of funds and equipment. He had built the Elbrus-2 machine, the supercomputer used in Russian space and nuclear research. But his work on the even faster Elbrus-3 was being stymied by lack of resources. Since he was intent on designing a superfast microprocessor chip that would use some of the architectural innovations he was putting into the Elbrus-3, he approached

Germany's Siemens, Korea's Lucky-Goldstar, and America's Hewlett-Packard. All three said no for various reasons. Sun, by contrast, was receptive. That June, Ditzel spent two weeks poking around Babayan's rundown lab. "If anything," he concluded, "they had a better grasp of the intellectual part of the problem [of chip architectures] than their Western counterparts do." The crumbling of the "evil empire" helped the talks along by lessening Western officials' worries about technology-sharing. So in March, 1992, Sun hired Babayan and formed the Moscow Center for

Spare Technology, a Sun-funded unit within the sprawling precision mechanics institute on Leninsky Prospekt. The price: somewhere between \$260 and \$320 a month per researcher. That's absurdly low by Western standards—but 25 to 30 times the salaries paid in rubles to the rest of the institute's researchers. **"METRIC INCH."** Once it had a deal, Sun had the wisdom to put Russians on jobs they're good at—ones requiring skill in the "blackboard sciences" of mathematics and computing theory. Deprived of decent hardware (Westerners joke that ill-fitting Soviet chips are made "to the metric inch"), Russians compensated with ingenious software solutions, such as their work for Sun on compilers.

On the other hand, Sun realized that the Russians wouldn't be any help in making software easy to use. Other Western companies have discovered that shortcoming, too. "Researchers here don't yet have an idea of how an end-user works," says Jane Kitson, president of Lotus Development Russia. For now, Lotus hires Russian programmers only to customize its spreadsheet software for the Russian market.

The Russians working for Sun have more latitude—and use it. Babayan says his team is designing a version of Sun's

For example, each delivery of a Sparc station 10 workstation to Russia requires approval, because it's classified supercomputer by the watchdog Coordinating Committee on Multilateral Export Controls (COCOM). Says Babayan, "One-third of the time we are waiting. Two-thirds of the time we are waiting."

DAILY HEADACHE. Even communications are tightly monitored. Sun's California staff isn't allowed to respond to Babayan's design drafts without permission from COCOM. That can take two months. The only exempt communications are go/no-go replies. In those cases, Ditzel, "all we can say is: 'No, don't do it again.'" He estimates that such rules cut the Russian team's efficiency by 90%. State Dept. tech adviser Cesare F. Rosati says export restrictions have been "increasingly liberalized in the past four years," but adds that if Sun has complaints, it can bring them up at the meetings of a government-industry liaison group.

While COCOM is a daily headache, a more range worry is the prospect of a bidding war for Russian talent in anticipation that Western arrangements will proliferate. Sergei Kapitsa, a leading physicist at the Russian Academy of Science, has formed a group called The Russian that is dedicated to fighting exploitation of Russian scientists by Western companies. Says Kapitsa: "We may be based on knowledge, you should be paid."

Other Western companies, including A

have sensed annoyance among Russian researchers, who feel they're not getting a fair cut. Sun concedes that Babayan and his team aren't slated to receive any royalties from products they create. Instead, Ditzel says they'll receive bonuses for good work, exactly as regular Sun employees do.

Babayan claims his group is content with the salaries. "If somebody offers us more, then we'll feel underpaid," says. So far, Sun's Ditzel isn't worried much about that. Then again, that could change—probably the day his Russian brain trust produces the kind of results he's hoping for.

By Deborah Stead in Moscow, Robert D. Hof in San Francisco



BORIS BABAYAN, THE FATHER OF SOVIET SUPERCOMPUTING, IS NOW DESIGNING CHIPS FOR SUN

Sparc microprocessor that incorporates many of the innovations he's building into his Elbrus-3 supercomputer. Among other things, he says it would process many instructions simultaneously to achieve blinding speed. Babayan says he's already working bugs out of the design. Ditzel refuses to confirm that such a project is under way. "We're not asking Babayan to design a chip," says Ditzel, "but to help us understand the essence of his approach."

The miracle is that so much can be accomplished with Russia's economy in the tank, its politics in upheaval—and, most intrusively, Western export-control officers hovering around. "They're stricter than our old KGB," complains Babayan.



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June 1 New York City—Race 2
June 24 Buffalo
June 29 Philadelphia
July 8 New York City—Race 1
July 14 London

July 20 Morristown
July 22 Stamford
July 27 Long Island
July 29 Boston
August 1 Syracuse

August 5 Chicago
August 11 Princeton
August 12 Pompano
August 18 San Francisco
September 14 Atlanta

September 22 Dallas
October 9 New York City—Chemical Bank Corporate Challenge International Championships

The New York Times

BusinessWeek

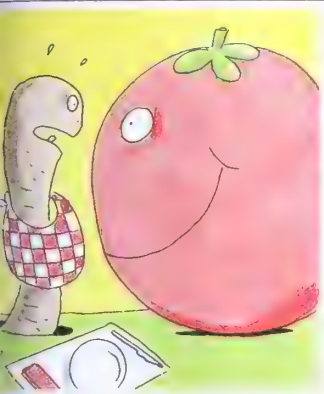
American Airlines

 **CHEMICAL**

Developments to Watch

BY PETER COY

'IMMUNE SYSTEM' BOOSTER FOR FOOD CROPS



Scientists at the U.S. Agriculture Dept. are trying to help some key food crops that are being munched on mount a chemical defense against insects, much as the human immune system rouses itself to fight off microbes. Scientist Ann C. Smigocki of the Agricultural Research Service has built a gene out of two elements: DNA that

as an on/off switch and a natural gene in plants that uses cytokinin, a chemical that caterpillars dislike. When a hornworm caterpillar chomps down, the leaves' cells send out signaling chemicals that trip the switch, triggering cytokinin production. Scientists previously tried to use cytokinin continuously, but that slowed the plant's development. The cytokinin is only in the leaves and is not thought to be toxic to people. Trials on tomato plants will start this summer, and Smigocki believes the technique could be adapted for pests that destroy soybeans and sugar beets.

WATCHING WHILE YOU WALK: TOUCH POTATO'S DREAM

At last: A product that lets you watch television every waking moment. Virtual Vision Sport, which is being sold nationally this summer, looks like a pair of ski goggles but has a tiny liquid-crystal-display TV projector inside. By focusing your eyes a certain way, you see what appears to be a big, slightly fuzzy TV screen about nine feet in front of you. Refocus, and the image disappears, allowing you to see the real world—say, the truck bearing down on you 50 feet away. The cost is \$900 for the 5-ounce goggles, a 2-pound belt pack, which contains a tuner and batteries. It comes from the goggles or optional headphones. Virtual Vision Inc. in Redmond, Wash., plans to enhance the goggles so they can pick up more than broadcast TV, including signals from satellites or a VCR or an in-flight movie. Among possible uses: Surgeons, by refocusing their eyes, could monitor a beating heart and checking the patient's vital signs on a video monitor. The privately held company plans to make the goggles available in Europe and Japan as well by year-end.

SHIELD THE HIGHWAYS OF TOMORROW FROM LIGHTNING RODS

Many people with home computers have learned the hard way that thunderstorms aren't kind to PCs. When lightning strikes an outside power or phone line, a surge of electricity fries a computer's innards. Unfortunately, most traffic engineers don't yet realize that their fancy new computerized highways are even more vulnerable, warns John Rohrbaugh, a senior research engineer at Georgia Institute of Technology's research arm. And the situation can only get worse.

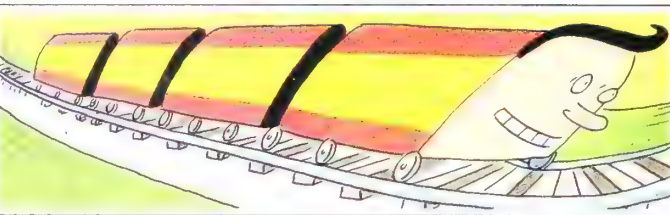
That's because states and cities are flocking to grab a share of Washington's megabuck Intelligent Vehicle Highway Systems (IVHS) project, which promises to ease rush-hour crushes without building new roads. Making highways "smart" means connecting vehicle sensors in the roads to a traffic-management computer. All those new wires provide more avenues for lightning attacks. Rohrbaugh knows: He worked on defending military computers from the electromagnetic pulses unleashed by nuclear explosions. He has put together a handbook suggesting off-the-shelf technology, such as surge protectors, that traffic engineers can use to protect against lightning.

FLYING TV CAMERAS COULD MAKE MAPS HISTORY

John A. Ciampa wants the world to be mapped with airborne video cameras. The Rochester Institute of Technology professor says still video images could be more accurate than conventional maps for many uses, including property surveys. Ciampa has invented a system that calculates the precise latitude and longitude of every dot on a video image. The idea is to start the camera at a known set of geographical coordinates. Then, measure the distance and direction you move from that position by keeping track of landmarks such as steeples, rocks, and trees as they move through the range of view. That kind of on-the-fly measurement is too complex for a person, but it's easy for a computer.

Ciampa says his video-mapping concept would be especially good in Eastern Europe and Russia, where maps are primitive and conflicting. In the U.S., one Orwellian concept is to keep track of parolees by transmitting their position coordinates to police stations. By superimposing those coordinates onto a picture pulled up from a video-map data base, the police could spy on cons who are about to, say, enter a bank where they don't have an account.

SPAIN'S TILT TRAIN IS A LOW-TECH OLDIE THAT KEEPS ON ROLLIN'



As the Swedish tilt train chugs along on its national demonstration tour, the makers of Spain's rival tilt train are feeling jealous about all the publicity. Tilt trains increase passenger comfort on curves by leaning into them. Sweden's X2000, from ABB Asea Brown Boveri, does it with sensors that trigger hydraulic lifts when a car heads into a turn at high speed. It works, but it's expensive. Spain is pushing an older, cheaper generation of tilt trains that employ the principle of the pendulum. The passenger compartments are connected to the outer frame by springs. When the train turns a bend, the compartments naturally lean toward the inside of the curve.

These "passive" tilt trains have their own drawbacks, to be sure. For one thing, they're too low for Amtrak's high platforms in the Northeast. Nonetheless, this inexpensive 1950s design may find new buyers in the 1990s. This year, the Swedish State Railways is testing the Pendular train made by Madrid-based Patentes Talgo. In the U.S., Washington and Oregon hope to run the Spanish train from Seattle to Portland and back starting later this year.

ONE YEAR AFTER RIO: THE U.S. WAVES A GREEN FLAG

Now, the Clintonites want to set the global agenda

At last June's Earth Summit in Rio de Janeiro, leaders of 172 nations made plenty of promises. Compelled by the fear that human activity may one day ruin the planet, they fashioned a controversial plan for sustainable development—a more environmentally sound approach to growth that hinges on relieving poverty, conserving resources, and cutting pollution. They signed Agenda 21, an 800-page blueprint, and most agreed to two landmark treaties—one to combat global warming, one to protect plant and animal species. Everyone vowed to act on these programs, and rich countries pledged aid to help poor nations bear the burden.

A year later, most of the promises are still rhetoric. "Every world leader ought to be embarrassed," says Kenneth Collins, chairman of the European Parliament's environmental committee. The inaction doesn't seem to bode well for the U.N. Commission on Sustainable Development (CSD), which on June 14 will begin its first annual meeting to evaluate progress on last year's accords. Oddly enough, though, the meeting could reignite Rio's momentum. Odder still, the U.S. may strike the spark.

LEADERSHIP. In an about-face, the U.S. is backing sustainable development and plans to push other nations to do so. Clinton has said he'll reverse key Bush Administration positions: The U.S. will sign the treaty to preserve species. It has pledged to cap emissions of greenhouse gases at 1990 levels by the year 2000. It will work to stabilize world population (table). And the State Dept. has put some 150 people under Counselor Timothy E. Wirth to help with Rio follow-up.

More lies in store. Vice-President Al Gore is scheduled to address the CSD meeting on June 14. There, he is expected to outline the U.S.'s philosophy for Rio follow-up at home and announce



a Presidential commission that will draw up a plan to make U.S. growth consistent with sustainable development principles. Some in industry worry about the fallout, especially from the U.S. plan, due in August, to cut greenhouse gases. But Norine Kennedy, director of environmental affairs at the U.S. Council for International Business, a group that represents U.S. business interests abroad, sees a plus in the new attitude. She says U.S. industry will have a

greater voice in shaping international environmental policies if Washington sets the agenda. Indeed, the Administration goal is to "reestablish leadership for U.S." on the environment, says Helen A. McGinty, director of the White House Environmental Policy Office.

That's a radical change. The U.S. was the bête noire of Rio, where Bush refused to sign the biodiversity treaty

watered down the climate protocol, and resisted suggestions that industrial countries should curb conspicuous consumption. "When a country as important as the U.S. is negative, it lets everyone off the hook," says one U.N. official. In late May, only 17 countries had ratified the biodiversity treaty and the climate protocol. European Community countries, plagued by weak economies, have shelved plans to curtail oil consumption by imposing a \$10 tax on every barrel of oil by 2000. And last December, when 34 leading industrial nations met to plan foreign aid for 1993 to 1996, they failed to deliver on a Rio pledge to boost aid and earmark some World Bank funds for environmental projects.

BACKTRACKING. The U.S. shift could help reverse all this. The CSD, comprised of delegates from 53 countries, is supposed to build a consensus on implementing Agenda 21, help finance for poor nations, and monitor

progress. What the CSD will monitor and how—is a delicate issue. "It's the core of whether the commission will be a significant player," says S. J. Scherr, senior attorney at the pro-environment Natural Resources Defense Council. At Rio, many nations supported quantitative measures of progress. "everyone has backed off," says Luis Mez Echeverri, head of the environment program at the U.N. Development Program (UNDP). Poor nations don't

see the CSD to be a watchdog at the lines of the U.N. Human Rights Commission. Industrial countries wish to avoid repeating their penurious financial aid.

The Clintonites say they'll back quantitative measurements and accountability. And they'll surely compromise, say U.N. officials. They say the odd much better under this Administration that CSD reporting requirements will have some teeth.

Meanwhile, the U.S. wants to play peacemaker in negotia-

A U.S. ABOUT-FACE ON THE ENVIRONMENT

The Clinton Administration plan for a Rio follow-up:

- Develop a U.S. strategy for sustainable development
- Sign a biodiversity treaty—which the Bush Administration refused to do—to preserve plant and animal species
- Pledge to stabilize carbon dioxide emissions in the U.S. at 1990 levels by the year 2000
- Support efforts to stabilize world population and earmark \$100 million in new money for such programs in 1994
- Push to redirect foreign aid to support sustainable development

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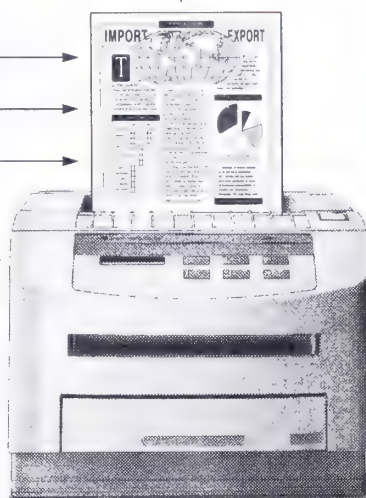
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INSTRUMENTS**

over an aid kitty. Rio delegates agreed to make the Global Environment Facility (GEF), a fund administered by the World Bank, a conduit for helping poor countries comply with the agreements. However, rich and poor nations have argued over how to reorganize the GEF for the task. At a May meeting in Beijing, where the World Bank asked for up to \$3.9 billion in new funds, the U.S. agreed for the first time to be a major donor—if the fund is restructured so donor countries can see where their money goes even as poor countries get more say in how they spend it. Some observers think the U.S. position will make a compromise on the GEF easier.

FOREIGN AID. The Clinton Administration also wants to redirect some U.S. foreign aid toward sustainable development. It has just reviewed USAID, the main vehicle for sending U.S. money abroad, and Wirth says the White House will recommend spending more on such projects as renewable energy, population planning, and sustainable agriculture. Administration officials also say the U.S. will lobby to change lending practices at multilateral development agencies to ensure that they don't support projects that destroy natural resources. Together, those agencies control about 21% of the world's \$57 billion in official development assistance.

Such actions matter. Echeverri says a recent U.S. pledge of funding for UNDP's Capacity 21, a program to help poor nations devise plans to implement Agenda 21, helped him win commitments of \$50 million from industrial nations. "The future of the Rio process absolutely depends upon the U.S.," says Lucas Reijnders, an adviser to the Dutch government on environmental issues. If the Administration moves forward at home, and if it can deliver some aid to developing nations, Europe and Japan will follow, some European officials say. In return, poor countries may be more willing to conserve their rainforests and wildlife.

Still, U.S. influence ultimately depends on action—no small challenge. Support for sustainable development will have to compete with other priorities, including aid for Russia, in an already tight foreign-aid budget—roughly \$13 billion for fiscal 1994. Action at home would likely require legislation of new incentives to cut pollution and protect ecosystems such as old-growth forests, moves that will be controversial. "Bottom line, it's what the U.S. does that counts," says James W. McNeill, a senior fellow at Canada's Institute for Research on Public Policy. "It's too early to tell." Although if words become deeds, the Rio accords may yet come to life.

By Emily T. Smith in New York, with Mary Beth Regan in Washington and Patrick Oster in Brussels

Marketing

RETAILING

WHEN WAL-MART STARTS A FOOD FIGHT, IT'S A DOOZY

Its Supercenters have rivals big and small trembling in the aisle

Burton Banks, a supermarket owner from Paducah, Ky., used to be a Wal-Mart fan and shareholder. Then, the retailing Goliath opened one of its new Supercenters—a huge combination grocery and discount store—several miles from Banks's two markets. That was bad enough. But the last straw came on opening day, when Wal-Mart managers kicked him out of the Supercenter for checking prices. Wal-Mart employees had spent hours in his stores doing the same thing, he says. "After that happened, and after I saw their attitude, I didn't want anything to do with them," fumes Banks, who dumped his Wal-Mart stock.

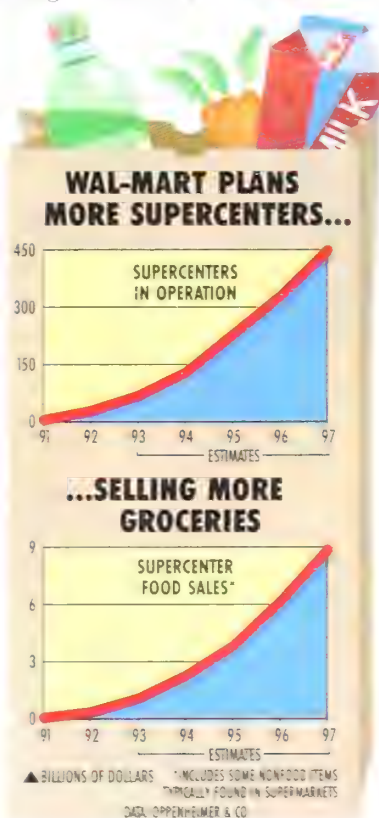
As Wal-Mart Stores Inc. muscles its way into the \$383 billion grocery business, Banks won't be the only angry supermarket owner. After experimenting unsuccessfully with huge, hard-to-navigate "hypermarkets" in the late 1980s, Wal-Mart now believes the smaller Supercenters are among its prime growth vehicles for the 1990s. It already operates 42 in nine states, with plans to add about 30 more by yearend and an additional 50 to 60 in 1994 (chart). Counting sales in its regular discount stores, Sam's Clubs warehouse units, and wholesaler McLane Co., Wal-Mart is likely to grow from a \$13.8 billion grocer to the nation's largest by 1997, eclipsing the current leader, \$22 billion Kroger Co., according to Burt P. Flickinger III, a principal at Booz Allen & Hamilton Inc. who has studied the Supercenters.

Why is Wal-Mart so interested in the low-margin, cutthroat grocery business?

With \$55 billion in sales, the retailer must tap new markets to sustain 20%-plus earnings growth and boost stock price. Considering Wal-Mart's stance on profit-sharing to motivate employees, "above-average growth is the key to the company," says Robert Buchanan, retail analyst at Alex. B. & Sons Inc. Wal-Mart's stock slid April after the retailer said sales growth in existing stores would fall below double-digit rates this year. The stock trades around 28, down from 34 in March.

Wal-Mart is not the only player in the market. It's competing with a host of other retailers, including out combinations of grocery and discount stores, which aim to lure customers with one-stop shopping. In Michigan-based Meijer Inc. and Oregon-based Fred Meyer, the largest combination-store operators, but analysts expect those chains to remain regional. Kmart Co. has four combination outlets, known as Super Kmart, and plans to add 17 more by yearend. But the retailer has not yet officially committed itself to a major expansion plan, despite apparent success at such places as Meijer and Montrose, Cal. Retail analyst Bert Sosnick of Oppenheimer & Co. predicts the U.S. could support 1,000 combination stores within the next 10 years, with sales up to \$60 billion.

In theory, a combination store should be more profitable than either a grocery or a discount store. By offering groceries, it's supposed to draw traffic, boosting sales of higher-margin general merchandise. Both Wal-Mart and Kmart claim that the theory holds in practice. More than 80% of Super-



er customers in both sides of stores, says Nick e, the Wal-Mart vice-presi- who oversees supercenters. As profitability, he the fact that Mart is opening centers so fast as "the return investment obvi- is good."

r. The Super rt in Medina, which opened years ago, has al sales of t \$65 million, store manag- like McNer- Analyst Sos- estimates the na store gen- d a return on stment of t 25% in its full year of

ation. And Booz Allen's Flickinger Wal-Mart's combination stores are ing for a profit equal to or greater \$50 per square foot, which is not approached by any other leading er except Toys 'R' Us."

cause of its financial clout, low op- ing costs, vaunted distribution and mation systems (page 57), and y determination to dominate mar- Wal-Mart is getting the most atten- from grocery competitors. Their ousness is understandable. In the slow- th food business, Wal-Mart's suc- must come at someone else's ex- e. Supermarket operators with weak ice sheets and meager market es are most vulnerable, along with l wholesalers who have already a wave of consolidations.

course, supermarkets are not going appear overnight. Rivals claim that Mart is still weak on merchandising selection in such key areas as pro- and bakery, though it has hired oned executives from Albertson's an Idaho-based chain, and Meijer to And this time around, the competi- is often a more sophisticated lot the small-town general merchants Mart has steamrolled in the past. ers, used to profit margins averag- less than a penny on the dollar, of- wage fierce price wars to protect turf from interlopers. Cincinnati-d Kroger, with more than 1,270 s, vows to defend its market share e half-dozen areas where it now res off with Wal-Mart Supercenters. er spokesman Paul Bernish admits Kroger is losing money or just



FOR NOW, WAL-MART IS SIDESTEPPING THE STIFFEST COMPETITION BY OPENING SUPERCENTERS MOSTLY IN RURAL AREAS

breaking even in those markets. To help reduce its distribution and other costs, Kroger plans to spend \$130 million on information technology in the next three years.

Even where Supercenters have not yet opened, grocers are girding for the challenge—in some cases by beating Wal-Mart to the punch. Harvey M. Gutman, senior vice-president of Supermarkets General Corp., says the company's 147-store Pathmark chain is expanding its own so-called supercenters in the Northeast. Less than half the size of Wal-Mart's biggest units, they offer such amenities as fresh seafood, video rentals, and a healthy selection of general merchandise. Gutman questions the ability of national retailers such as Wal-Mart and Kmart to understand local food preferences. "Why do you think there are really no true national supermarket chains?" he asks.

LONG WALK. Another skeptic is Robert E. Stauth, president of giant wholesaler Fleming Cos., which supplies more than 4,800 stores, including some Wal-Mart and Kmart supercenters. Stauth says Wal-Mart's cost advantages are bound to diminish as it tackles the complexities of a large grocery business and starts its own distribution centers. Wal-Mart recently opened its first food distribution center in Clarksville, Ark., with a second scheduled to open this fall in Texas. White admits that the Clarksville center, operated by wholesaler McLane, is al-

ready having difficulties because McLane's forte is supplying convenience stores. That has led to some items being out of stock in the Supercenters.

For now, Wal-Mart is sidestepping the stiffest

competition by opening its Supercenters mostly in small towns. It's using them to replace the earliest Wal-Mart discount stores, which are in rural areas where founder Sam Walton originally wiped out his competition by offering lower prices and wider variety than local merchants could match. The 116,000- to 188,000-square-foot Supercenters draw customers from up to 60 miles around and build on Wal-Mart's familiarity and low-price image.

But not everyone enjoys one-stop shopping. Bernice Allen, a retired rancher in Mount Pleasant, Tex., still buys her groceries at the Winn-Dixie across the street from the Wal-Mart Supercenter that opened last August. Allen, 73, prefers Winn-Dixie's "personal touch" and manageable size. At Wal-Mart, she says, "you have to park so far back."

Loyal grocery customers may not change their habits overnight. Nevertheless, Wal-Mart is betting that selling juice, jumper cables, and blue jeans in one low-price store is the future of retailing. If it has to alienate a few grocer/shareholders along the way, so be it.

By Wendy Zellner in Mount Pleasant, Tex., with bureau reports

THE NEW RON PERELMAN HAS AN OLD PROBLEM

As he tries to be an empire builder, Revlon remains a millstone

Ronald O. Perelman feels good. Trademark cigar in hand, the erstwhile raider looks tan and fit. The no-holds-barred negotiator who seized Revlon Inc. in one of the 1980s' nastiest takeovers now says he's shunning the world of highly leveraged deals, and instead seems eager to burnish his image

as a builder and operator of companies.

Across his far-flung empire, Perelman has sold assets—using the proceeds to pay off debt, buy stakes in several properties, and inject equity into others. "Our strategy today is to continue to build up both internally and through acquisitions each of our core businesses," says the 50-year-old mogul.

Problem is, there's one vestige of the go-go 1980s he just can't seem to get into 1990s shape: Revlon. After grabbing the cosmetics company in 1985, he loaded its balance sheet with \$2.9 billion in debt. True, Perelman has slashed it to roughly \$1 billion, recently refinanced at lower interest rates. But burdened by a still-hefty interest tab and unprofitable product lines, Revlon has lost money since 1991. Perelman was forced to cancel an offering of Revlon stock last year after investors turned up their noses. And rumors persist he's dolling up the company so he can sell it off.

NICE DEAL. Perelman denies such talk—and he doesn't seem to need the cash. In February, his company MacAndrews & Forbes Holdings Inc. sold First Gibraltar Bank, the ailing chain of Texas savings and loans it bought in 1988, to BankAmerica Corp. for \$110 million. But because of the tax breaks granted by regulators in the S&L bailout—breaks Perelman used to offset gains at his other companies—he made \$1 billion from First

Gibraltar, says analyst Frank W. Anderson of Stephens Inc. in Little Rock. Add to that \$1.1 billion he made selling Revlon's Betrix and Max Factor brands to Procter & Gamble Co. in 1991, and he has amassed quite a war chest.

For the past six months, Perelman has been doling it out. He spent \$100 million to buy 52% of SCI Television, a TV station chain owned by Vail Communications developer George N. Gillett. He spent \$300 million to raise his stake in Marvel Comics from 60% to 80%, and spent an undisclosed sum to buy 50% of Genesis Entertainment, a Los Angeles production and syndication company. He spent \$100 million into Revlon. And in March, Perelman spent \$180 million to buy Consolidated Cigar Corp. from Vantage Capital Partners Inc., which bought the company from him in 1988 (table).

But Perelman's passion—and his millstone—remains Revlon, which counts for more than half his empire's revenues. Last year, he tried to spin off 11 million shares, or 18% of Revlon, at roughly \$18 to \$20 per share. But investors were wary, even though the spring 1992 prospectus projected earnings would jump 17%, to \$1.7 billion in 1992, and that operating losses would shrink to \$24.3 million from \$242 million in 1991.

It turns out the investors were right. Sales rose just 11% in 1992, and Revlon reported an \$82.6 million operating loss, more than three times worse than the prospectus anticipated. Revlon's 1992 results don't look any brighter. For the quarter ended Mar. 31, sales fell 4% to \$350 million, while operating income dropped to \$2 million, from \$14 million before a \$163 million restructuring charge in the first quarter of 1992.

Revlon says sales sagged after it closed a factory in New Jersey and trouble shipping fragrances. The August bankruptcy of a big Revlon retailer, Phar Mor drugstore chain, didn't



PERELMAN'S FAR-FLUNG PROPERTIES

1992 REVENUES/1992 OPERATING PROFIT OR LOSS

COLEMAN

Outdoor equipment manufacturer acquired in 1989
\$492 million/\$68 million

CONSOLIDATED CIGAR

Cigarmaker Perelman bought, sold, and bought again
\$125 million
CASH FLOW: \$29 million

GENESIS ENTERTAINMENT

50% stake in L.A.-based production and syndication company
Unavailable/Unavailable

MAFCO WORLDWIDE

Licorice flavoring company
\$100 million/\$31 million

MARVEL ENTERTAINMENT GROUP

Recently increased stake in this comic-book publisher to 80%
\$224 million/\$68 million

NATIONAL HEALTH LABORATORIES

24% stake in clinical lab chain
\$721 million/\$64 million*

NEW WORLD ENTERTAINMENT

TV production company, producer of *The Wonder Years*
\$163 million/-\$20 million

REVLON

Privately held cosmetics company
\$1.6 billion/-\$83 million**

SCI TELEVISION

52% stake in chain of seven stations
\$188 million/\$15 million***

* INCLUDES \$136 MILLION CHARGE
DATA: COMPANY REPORTS, BUSINESS WEEK

** INCLUDES \$163 MILLION RESTRUCTURING CHARGE
*** FOR NINE MONTHS ENDED SEPTEMBER, 1992

while, CEO Jerry Levin concedes Revlon has a long way to go. "I'm at the point where I want to be," he says. "It's clearly evolutionary." Trouble is, Revlon has been evolving a long time. When Perelman bought Revlon was in a wide range of markets. The less expensive Revlon line sold in drugstores and supermarkets, and produced excellent margins. But expensive department-store lines, such as Princess Isabella Borghese, didn't. Perelman bought in Levin, then a top executive at Coleman Co. with no experience in cosmetics, to take over from longtime CEO executive Sol Levine.

EXIT. Levin proposed that Revlon leave the department-store business, take funds spent on print advertising and more promotions and go directly to TV appeal to a younger audience. Perelman personally chose supermodels Clau-Schiffer and Cindy Crawford to be Revlon models and spokeswomen. Meanwhile, Levin took Ultima II, the one ex-

pensive line left, out of upscale stores and started selling it through J.C. Penney and Dillard's. He launched a plan to coordinate Revlon's marketing worldwide, cut the work force from 35,000 to 17,000, and replaced President Michael M. Hammond with George Fellows, a former Revlon executive who became a top executive at Colgate Latin America.

The focus on mass-merchandising may yet pay off, but it will require a big investment in marketing. And some Perelman watchers say that Revlon's years of high debt left it with a legacy of underinvestment in marketing and product development. "For a long period of time, the company was so highly leveraged it had to devote its financial resources to debt service requirements," says Carol Goodwin Fuller, a fixed-income analyst at Moody's Investment Services Inc. Interest payments are down from \$153 million in 1990, but they still soaked up \$94 million in 1992.

For their part, Revlon executives

point to recent market-share gains in everything from lipstick to eyeliner. They say they're stepping up product launches, and have hiked ad spending. Dolly Parton agreed to promote her own line of Revlon fragrance and cosmetics through infomercials, and Perelman himself is proud of an ad featuring country singer Trisha Yearwood touting Revlon's new fragrance, "Wild Heart."

Through it all, Perelman is staying intimately involved in the details of Revlon's business. Before the company launched its new Outrageous shampoo earlier this year, for example, he made product managers redesign the packaging and reformulate the shampoo several times. And he insists he's reveling in Revlon, no matter what the critics say. "I am thrilled with the progress we've made," says Perelman. "And I am the only one that matters."

By Laura Zinn, with Sunita Wadekar Bhargava and Elizabeth A. Lesly in New York

THE MAKEUP MAKER WHO WOULD BE MEDIA MOGUL

As if his Revlon supermodels weren't glamorous enough, Ronald O. Perelman may now be reaching for the dazzle of a media empire. His properties are already a threat to Rupert Murdoch or Ted Turner, but Perelman has assembled enough of a portfolio to suggest that he means to be more than a maledilettante (table). "Any masplan he has for media isn't far," says Porter Bibb, a bank at Ladenburg, Thalmann & "But Perelman is an exceptionally bright manager."

Not to mention a shrewd investor. In February, Perelman struck a deal for control of SCI Television, a chain of six TV stations. For just \$100 million, he got 52% of a company SCI bought for \$1.5 billion in 1987, with top-ranked network affiliates in Atlanta and Milwaukee. Perelman's deal, which also included a Tampa station, was part of a prepackaged Chapter 11 filing after SCI couldn't meet debt payments. SCI left bankruptcy May 25 with its stations unscathed. Now, media watchers are wondering whether Perelman will use SCI as a springboard for bigger leaps. He already owns a Hollywood production company, New World Entertainment, and 80% of comic-book giant Marvel Entertainment Group. And he re-

MEDIA SYNERGY?

How Perelman could link his properties:

BROADCASTING

First, he could ally SCI with another station group to build audience and presence in top TV markets

PROGRAMMING

Then, the New World and Genesis entertainment units could develop programming for the new network

PUBLISHING

New World and Genesis could also distribute cartoons based on Marvel Comics characters

DATA. BUSINESS WEEK

cently bought 50% of a TV-program distributor, Genesis Entertainment. All told, Perelman's media assets generated \$41.9 million in operating income in 1992 on revenues of \$393 million.

Some media executives predict that Perelman will try to assemble an ad hoc TV network, supplying SCI's stations with his programming and selling them to advertisers as a package. To do that, Perelman would probably have to team up with another station group to add some big markets. The prime candidate is Chris-Craft Industries Inc., which owns New York and Los Angeles stations. Investment bankers who know both players say they have talked. Perelman says only that he may buy more stations.

First, though, he might want to

raise his profile as a programmer. New World, which began as a producer of B-movies and later became a major TV producer, lost its only network series when ABC retired *The Wonder Years*. And Genesis just canceled its one major offering, *The Whoopi Goldberg Show*, which was drowned out in the din of rival talk shows.

EPIC PRODUCTION. If Marvel Comics is any guide, Perelman knows how to add zip to listless media companies. When he bought Marvel in 1989, it trailed rivals such as Time Warner in exploiting its treasure trove of

comic-book heroes. Now, Marvel's Spider-Man and X-Men are showing up in TV shows, movies, and merchandise at home and abroad. James Cameron, who directed *Terminator 2*, is even filming an epic *Spider-Man* for Twentieth Century-Fox Film Corp.

One measure of Perelman's ambitions may be his choice of William C. Bevens Jr. to run his media properties. Bevens came from Turner Broadcasting System, where he helped Turner pull off his daring acquisition of the MGM/UA Communications film studio. For now, Perelman would still rather be known as a latter-day Charles Revson than a would-be Ted Turner. "We have no franchise in media," he insists. "We're a tiny little company." Pausing a beat, he adds: "But growing."

By Mark Landler, with Laura Zinn, in New York, and bureau reports



TIMESHARE FOR SALE —IN A CORPORATE JET

NetJets allows thrifty execs to fly on short notice

Owning a jet isn't all it's cracked up to be. Just ask Clark A. Johnson, CEO of Pier 1 Imports Inc. The Fort Worth retailer has operations scattered across 42 states. When executives needed to visit sites in Iowa, Minnesota, North Dakota, and South Dakota, they could hit them all in a day in the company's British Aerospace PLC HS 400. But there was always something. On days when the plane went unused, Pier 1 had to pay the company pilots anyway. Johnson had to fly commercial when the chief pilot got sick, or when the jet went in for maintenance. There was the danger shareholders would complain he was living high on the hog. And it was expensive.

Pier 1 found an alternative. Some years ago, Johnson's former business chum Jack Nicklaus told him about NetJets, a jet-ownership program that lets executives use planes anywhere in the continental U.S. within four hours—for the expense of owning just a piece of a plane. So, in 1986, Johnson sold the HS 400 and bought a

three-eighths share of a Cessna Citation II, which seats seven. "It is a management tool that enables us to spend more time in the field with a far-flung operation," he says. After signing with NetJets in 1987, he says, Pier 1 cut its aviation costs by nearly 40% over five years, without sacrificing convenience.

NO DEADHEADS. Today, Pier 1 is one among more than 100 companies or individuals that have become NetJets owners. The program is run by Executive Jet Aviation Inc., based in Montvale, N.J., one of the country's largest jet charter and management companies. NetJets offers some major advantages over full-plane ownership. Costs can be significantly lower. Participants pay only for actual flight time—not for the many hours of so-called deadhead time that jet owners or charterers must pay for when jets are traveling empty. NetJets planes also come ready to fly, eliminating the need for maintenance, leasing hangars, or keeping pilots on salary.

And there's another huge advantage: Unlike condo shares, where participants can enjoy the house only when the others are gone, NetJets is arranged

so that a company with as little as one-quarter share can use up to 100 jets at any time. The trick, says Richard T. Santulli, a mathematician and onetime head of Goldman, Sachs & Co.'s leasing group, was beginning with a pool of eight unowned jets and combining it with a sophisticated software program that tracks jet movements and keeps them flying as efficiently as possible. NetJets is growing quickly and anticipates revenues of roughly \$50 million in 1993, jumping 50%, to \$75 million by 1994, with NetJets providing 70% of those revenues.

The program has widest appeal among small to midsize companies that aren't large enough to keep a jet in frequent use. But it's also attracting a broad audience beyond that. Many NetJets owners are private investors and tired top executives loath to give up the perks of corporate life. Former America CEO Gerald Tsai Jr., Atlanta-based owner Rankin M. Smith, and retired G.D. Searle CEO D.C. Searle own NetJets shares. NetJets is gaining fans among large corporations such as Texaco and Sara Lee that use NetJets to supplement corporate fleets.

Now, Santulli is preparing to broaden his audience. To date, NetJets has mostly Citation IIs, which have a range of only 1,600 nautical miles—New York to Houston. Executive Jet is close to a deal with BAE for 20 BAE 1000s, a midsize jet that carries eight and flies 2,000 miles—coast to coast. The deal has not closed, but BAE is so eager to expand its new plane to corporate users that it will offer to guarantee the residual value of the planes after five years, protecting buyers from a downturn in the market.

The concept does more than help corporate purchasers look thrifty. It gives jet manufacturers another way to sell their wares. Roughly 40% of the companies and individuals buying NetJets shares are first-time plane owners, Santulli says. "One thing that's been lacking is the industry's ability to

attract new people to the marketplace," says Bob Zuskin, a jet analyst at consultant Gaspar Inc. "The beauty of NetJets is that it allows people in executive suites to own jets for a fraction of the cost. Of course it may be a little chic to boast, 'I own one-eighth of a jet.' But then, the zeitgeist of the '90s isn't so much about it's thrifty."

By Andrea Rosen
in Montvale, N.J.

COMPARING THE COSTS

	NetJets vs. full ownership	
ACQUISITION COST	\$630,000	\$2,500,000
DIRECT OPERATING	1,060.00	817.25
Cost per hour (200 hours per year)		
FIXED COST	134,580	204,528
Annual		
COST OF CAPITAL	37,800	150,000
at 6% rate		
DEPRECIATION	63,000 **	250,000
TOTAL ANNUAL COSTS	447,380	767,978
Assuming one-quarter jet share **Eight years to a 20% residual		

DATA: EXECUTIVE JET AVIATION INC., CONKLIN & DEDECHER ASSOCIATES INC.





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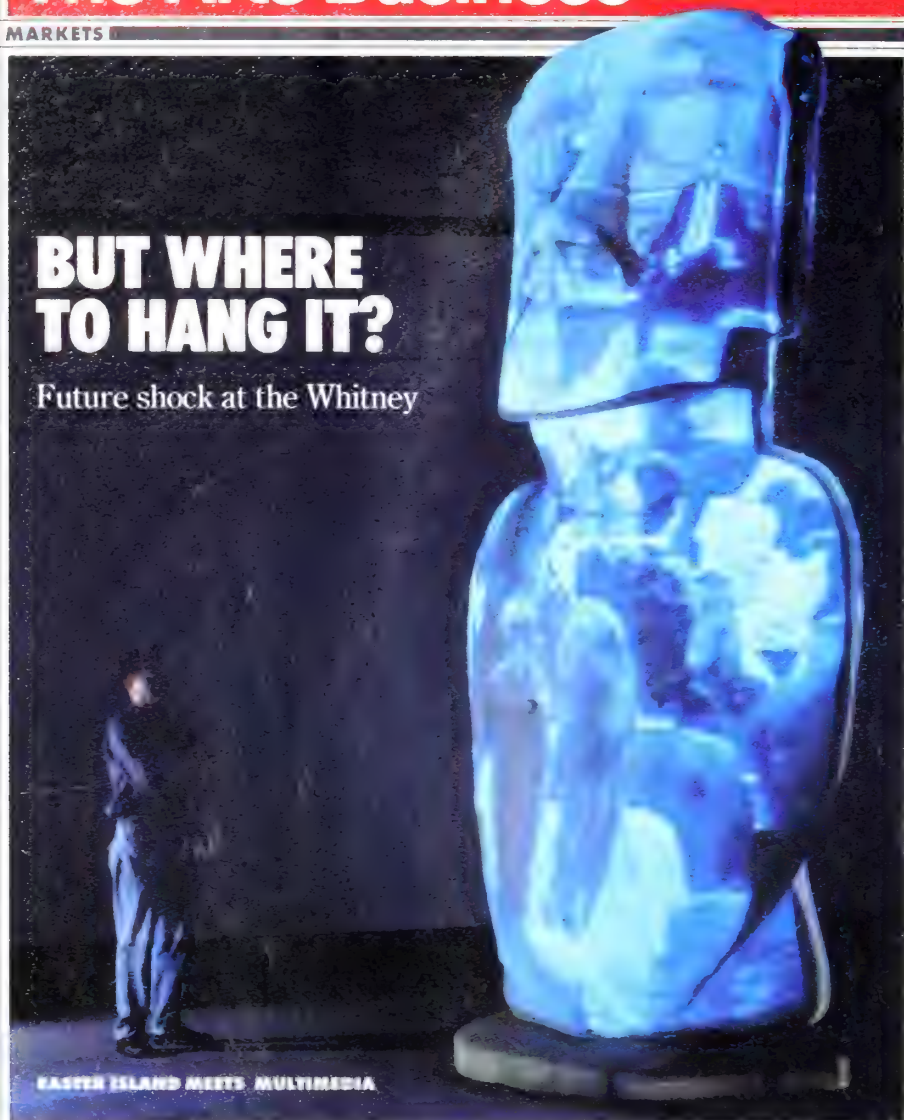
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BUT WHERE TO HANG IT?

Future shock at the Whitney



EASTERN ISLAND MEETS MULTIMEDIA

'Sir," bellowed a guard at New York's Whitney Museum one recent morning, "you are standing on the artwork."

Well, wags might ask, why not? The visitor was, after all, viewing the Whitney Biennial. Critics have been stomping all over the highly political sculptures, installations, films, videos, photos, and paintings that have filled the museum since Mar. 4. Robert Hughes in *Time* called the show "a saturnalia of political correctness... a fiesta of whining agit-prop." Roberta Smith in *The New York Times* tagged it "pious, often arid." Kay Larson in *New York* warned: "If you scare easily, stay home." No wonder that for weeks Whitney Director David A. Ross spent an hour a day answering hate mail, which is out-running complimentary letters four to one.

Every odd year, the Whitney culls studios around the U.S. for the best contemporary art produced in the previous two years. Every time, the Biennial disappoints—at best. But for those connected with the arts business, there's a major difference this year. The '93 Biennial breaks with its recent predecessors, which drew criticism for being too attuned to star artists promoted by trendy galleries. This Biennial is loaded with hard-to-sell works. If it's an omen, the contemporary art business is in for rough times.

"The Biennial may reflect what's going

on in the eyes of young artists, young collectors in view of the cool and the media, but it does not help the art market one bit," says Los Angeles collector Eli Broad, chairman of SunAmerica Inc. "This is not the kind of work that we would be soliciting." Diane Upright, director of contemporary art at Christie's. "It needs to be purchased by galleries." Even then, says New York art dealer Josh Baer, "We are only a couple of thousand people worldwide who collect the kind of work the Whitney Biennial is showing."

UNGAINLY PIECES. Blame both the message and the medium. Most of the works make decidedly unsubtle statements about AIDS, racism, sexism, and political and social issues of the day. "For the past five years, these problems have been on the minds of many artists, but a lot of collectors are not interested in this kind of work," says New York dealer Paula Cooper. "People who are want to find the successors of Picasso, Daumier, and other artists who dealt with the world's woes in endearing ways. Such potential masters, by virtually all accounts, are few at the Biennial."

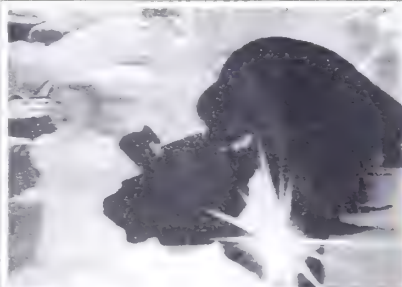
Still, Manet often belittled Realism's talents. Who's to say, definitively, that art will last? Far less subjective, far more meaningful, is the impact of the Biennial artists' chosen media. Only half work in film or video; only a few build installations or huge sculptures. Only 8 of the 82 artists are painters. Although film, video, and installation art have been around for years, their preponderance at the Biennial demonstrates the point that the art world has changed. "More and more artists have found that they cannot express themselves through the canvas or in bronze," says Donald Young, a Seattle dealer.

Yet paintings are what the vast majority of collectors want to buy. Says Elmer, who for his own collection or for the foundation has bought more than 1,000 works of art in the past 10 years: "Very few collectors have the interest or the need for collecting the media [the artists in the Biennial] are working in."

A look at a few Biennial pieces shows that. Pepón Osorio's *The Scene of the Crime (Whose Crime?)*—a recreation of a murder scene—was built in the museum's

Land of Projection by Bruce Yonemoto. Yonemoto, a Japanese American, Timothy Martin's huge model of an Eastern Island sculpture.

MANY OF THE FEATURED ARTISTS WORK IN VIDEO, WHICH IS HARD TO SHOWCASE



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that serves as the screen for TV. Charles Ray's 45-foot-long *Fire* didn't even fit in the Whitney, parked out front on Madison Ave. foundations, museums, and a few collectors can buy these works.

What's more, notes New York dealer Barbara Gladstone, an installation "is not as liquid as other art purchases because it has to be built into a space you move, paintings are not a problem. And when these installations use electronic technology—as many do—collectors must pay a huge sum just for the equipment. That can boost the price of video installations to \$100,000 or more, whether the artist is established or not.

Even collectors who seek out cutting-edge works acknowledge difficulties with both elaborate video installations and simple film and video offerings. "I don't see the show; most of the video was interesting," says adman Jay Chiat, founder of Chiat/Day Inc. and owner of seven art tapes among his many collections. "The problem with buying video is, what do you do with it when you buy it? Some people are making rooms." Then there's the time investment. Even a glimpse of a painting or sculpture can be worthwhile, but videos must be watched to make sense. **VIDEO VULTURES?** Galleries have their own problem with videos: Some sell them, but they can't make a living on pieces that sell for \$100, \$300, or more. \$1,200 for limited editions. Rival distribution channels are likely to develop alongside the nonprofit groups that do most of the job now. "These things will end up in legitimate markets with reasonable profit margins," says Ross.

Experts predict other pluses for video on the road. As the world goes digital, technology won't be a barrier. "I think video is going to take off in the next five years or so because you'll have definition TV" and other advances, says Chiat. Clearly, video appeals more to the young generations that are growing up with it. Says Gladstone: "There will be a huge and important market for it because it will be an area for young people who don't have a lot of money but want to be connected with the art world of their time." With video serving as a low entry point, as prints do now, the art world could expand. Paradoxically, the cause of the bellwether Biennial left collectors in a state of painting depletion, it could foment a revival on canvas. Art adviser Thea Westreich foresees a redetermination to investigate what can be done with painting.

If any of those things occur, the 1993 Biennial will be remembered far more fondly than it was initially received.

By Judith H. Dobrzynski in New York

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CHICAGO'S SWAPS SWEEPSTAKES

Its feuding exchanges could win big as home to a clearinghouse

For months, the Chicago Board of Trade and the Chicago Mercantile Exchange have coyly courted one another, trying to merge their separate clearinghouses into one huge trade-matching entity. The courtship busted up abruptly in late May, though, when the Merc announced that it had wooed another exchange, the New York Mercantile Exchange, into a partnership to develop a new limited trade-clearing system. The Merc says the CBT had plenty of warning about the New York deal, but an aggrieved Patrick Arbor, chairman of the Board of Trade, says "we were completely blindsided."

Just another fracas between the two Chicago commodity exchanges? Hardly. Behind the latest ruckus in the pits is an unseen prize: the potentially enormous business for clearing swap transactions. A clearinghouse would give both parties to the swap protection against the risk that they might not receive agreed-upon swap payments, much as the futures clearinghouse guarantees that both sides of a wheat contract will meet their obligations. A swap clearinghouse could also reduce risk to the financial system and expand the roster of swap dealers. "A clearinghouse is the next logical step in the evolution of the swaps market," says a Fed official who has studied the question of systemwide risk arising from swaps.

CUSTOM-MADE. Swaps—the high-finance contracts used to manage interest-rate and currency risks—have rocketed in a few short years into a \$4.8 trillion market. In a typical interest-rate swap, one party agrees to pay a variable interest rate to another party in exchange for receiving a fixed rate payment. For example, say a company that has issued \$100 million in 10-year, fixed-rate 7% bonds thinks interest rates will fall. It could enter into a swap contract where it agrees to make variable-rate interest payments for 10 years to another party, equal to three percentage points over the two-year Treasury rate of 4%. In exchange, it would get fixed payments of 7%—equal to the interest payments it

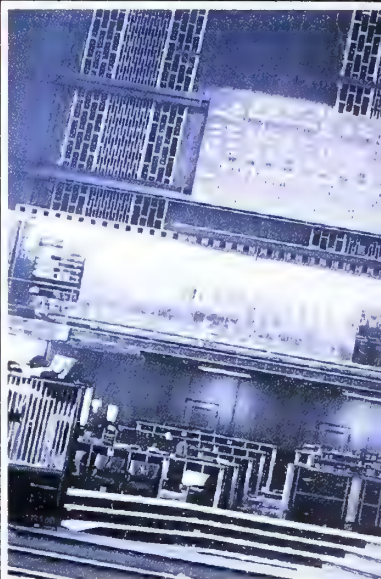
is paying bondholders. If rates fall, so do the company's payments—even though its bondholders are still receiving 7%. The other party to this deal, say an insurance company, may have issued floating-rate notes and wanted to protect against a rise in rates. The swaps dealers—mostly banks—that create, market, and broker these deals have made billions.

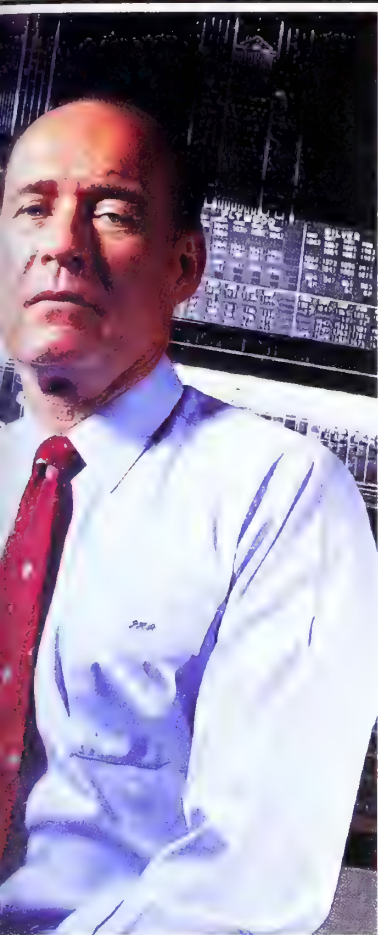
Creating a clearinghouse has proved to be tough sledding so far. More than a year ago, outgoing New York Fed Chairman Gerald Corrigan warned that the loosely regulated swaps market could generate problems for the financial system. Fed statistics show that at the end of 1992, Citicorp alone had swaps credit exposure of \$26.6 billion. But there has been no substantive move to address the problem of swaps-related credit risk. The big New York banks that dominate the domestic swaps market have discussed forming a clearinghouse, but they have yet to take action. And the industry's lobbying arm, the International Swap Dealers Assn., won't take a position on the question. "The idea has been bantered around before, only to die a slow death," says Fredrick J. Chapey Jr., head of derivatives origination and strategy at Chase Securities.

Why no progress? Supporters and opponents of a clearinghouse agree that eliminating systemwide risk is a laudable goal, but coming up with a workable system to do so is hard. For one thing, clearing works best on standardized contracts, such as contracts on wheat or shares of IBM stock, and swaps are custom-tailored to meet the specific requirements of the two parties.

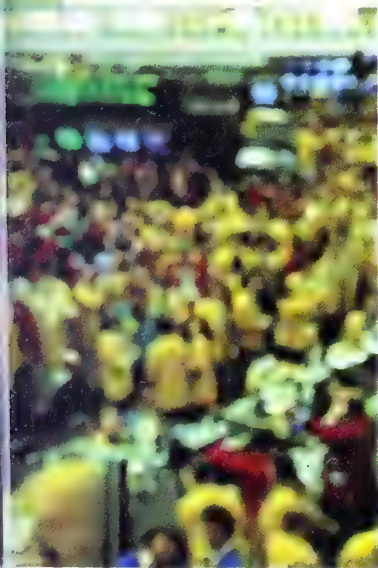
And while clearing would reduce the importance of creditworthiness between parties, swap dealers already adjust for the lack of a clearinghouse, demanding collateral when they trade with less creditworthy counterparties. What's more, customers aren't willing to give up cus-

CBT Chairman Patrick Arbor complains that they were "completely blindsided" by the Merc's deal with NYMEX





"Clearing could embellish the market. But we don't want to compete in swaps trading," says John Sandner, Merc chairman



tomization in exchange for reduced concerns about credit quality. And some worry that using a clearinghouse could add to the cost of using swaps. "Any time you add an extra link in the chain, you add cost," says Keith McBride, associate treasurer of Mead Corp.

Big swap dealers worry about a threat to their established market position. Centralized clearing would broaden competition between swaps dealers—hardly a popular concept with current dealers making huge profits. Dealers now limit their trading with one another based on their assessment of each others' creditworthiness. The safety provided by a clearinghouse would open the market to new participants and expand the activities of existing dealers.

"SOCIAL BENEFIT." Some dealers even think fears about swaps are overblown. There have been few failures in the swap market, and those that have occurred don't justify apocalyptic visions of financial gridlock. Drexel Burnham Lambert Inc. and Bank of New England both had sizable swaps portfolios, and companies that had swap contracts with them were plenty nervous when the troubled institutions collapsed. But even in those extreme cases, there was no panic in the market because the companies' contracts were eventually settled.

Others, though, recognize that regulators are still concerned and think a centralized clearinghouse is needed to avert new market regulation. RMJ Options Trading Corp., a New York options and securities firm, has tried to sell dealers on its own plan to clear swaps. And though the big New York money-center banks haven't agreed on anything, Chase Manhattan Corp. has discussed the possibility of forming a clearinghouse with other dealers, while Bankers Trust Co. is now developing a plan, market sources say. Chase's Chapey says his bank discarded the idea because it prefers to deal with its clients one-on-one. Bankers Trust could not be reached for comment.

But despite the wrangling, Chicago's exchanges may still be the best home for a clearinghouse. The CBT and Merc will try to get their clearing talks back on track this month. The exchanges' primary aim is to unify the clearing of futures and options trades. But the prospect of clearing swaps trades is also there. "The opportunity for swaps clearing is great," says Merton H. Miller, the Nobel laureate economist who sits on the Merc's board of governors. "And it would bring a social benefit, as well

as being a successful private venture."

Of the two, the CBT is more interested in clearing swaps. Board of Trade Clearing Corp., its clearing unit, is acknowledged as one of the world's foremost clearing entities. And despite its failed effort to launch swaps trading in the CBT's pits two years ago, the exchange still wants to serve as a clearinghouse for swaps dealers. "If we don't make a move, we're going to find some other consortium of banks—or someone else—will jump in and do it," says Arbor.

Sources at the CBT believe a joint clearinghouse would get a lot more use than one run by CBT alone because the Merc has stronger ties with the swap dealers. Those dealers generate a quarter of the trading in the Merc's Eurodollar futures contract. But the Merc is approaching the clearing issue gingerly. It's afraid of offending the swap dealers. "Clearing could embellish the market. But we don't want to compete in

THE SWAP MARKET IS BALLOONING

OUTSTANDING SWAP CONTRACTS



swaps trading," says John F. Sandner, chairman of the Merc. One high-ranking Merc official says the exchange leadership also believes Merc members would be leery about the potential costs of a swaps clearinghouse. That's because each member of a swaps clearing association would pay a fee for each cleared trade and agree to shoulder part of the cost of any defaults. "Members want to know why they should pay up capital they've worked all their lives to earn because there's been a default on a swaps contract," says the officer.

True, the exchanges work together effectively in Washington to lobby against higher taxes and more regulation. But on day-to-day business issues, they rarely agree. That distrust was exacerbated by the recent dustup over the Merc's NYMEX overture. If the Chicago gang doesn't agree to cooperate on swap clearing, they could wake up to find that an extremely lucrative business has been snatched from under their noses.

By David Greising in Chicago

A hand holds a white Sprint FONCARD against a background of a world map. The card features the Sprint logo, the text 'FONCARD', and a phone number '854 1133'. Below the number, it says 'Global Calling Number' and '691333 616 854 1133'. The map shows various countries and cities, with a focus on Asia and the Pacific region.

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WHEN SCORPIO RISES, STOCKS WILL FALL

Astrologer-traders look to the stars to cast the markets' future

Jack Shuman, futures trader, is ready to "come out of the closet." After considerable soul-searching, he has decided to reveal an aspect of his life that is shared by untold numbers of other Wall Streeters. Most fear repercussions—ridicule, or even loss of their jobs—were their secret passion ever to become known. But conse-

financial astrology buffs gathered in New York for a conference organized by Henry Weingarten, the fund's manager.

Weingarten claims to run some \$8.7 million in the fund, which is a private investment vehicle for what he describes as "high net-worth individuals." The fortysomething, bearded Weingarten

Weingarten doesn't base his forecasts solely on the Uranus-Neptune situation. He also designs individual astrological charts of the stock market, based on the positioning of the heavenly bodies at the founding of the New York Stock Exchange, as well as similar charts for the Tokyo exchange, President Clinton's individual stocks, and the U.S. economy. The prognosis is dour. Weingarten "shorts everything" except some technology stocks. "We are not in control of our own destiny," says Weingarten. "That's a period in which the unthinkable becomes thinkable."

SUNSPOTS AND SELL-OFFS. Crawford agrees that the planetary situation is "crummy indeed for the markets." In the crucial days ahead, according to the latest *Crawford Perspectives*, including 10 ("Saturn stationary retrograde square to solar eclipse... may touch

tight money. Restrictions. Depressed feelings. DOWN!") and June 1993, when the position of Mars tends "bank failures, sharp market sell-off, tight money, currency crises, earthquakes, sunspots!"

Does financial astrology make sense, or is it just a don't-do-the-expression—shine? So far this year, Crawford's and Weingarten's gloomy prognostications yet to bear fruit. But Crawford fared better in 1992, when his newsletter was ranked No. 1 long-term market newsletter by the market newsletter *er Digest*. As for Weingarten, he won't provide performance figures for his fund. And not all participants in the May conference were necessarily sold on astrology.

The skeptics include conference speaker Jack D. Schwager, director of futures research and trading strategy at Prudential Securities Inc. If market cycles are in sync with planetary cycles, that's probably a coincidence. Says conference attendee Peter Colucci, a currency trader at Midland Bank, "There's no way I could put my money at risk on the basis of financial astrology."

Shuman has no such qualms. He says, "I'm hiring sophisticated quant people to provide number-crunching forecasting trading methodology, which uses a combination of orthodox technical analysis and a 'Hindu forecasting technique.' But Shuman has already taken a bigger step—he has come out of the closet. Most of his ilk on Wall Street have not. For their sake, if not for clients', perhaps that's just as well."

By Gary Weiss in New York



quences be damned. Jack Shuman is going public. "You can call me a futures trader and researcher," he says. "And an astrologer."

For better or worse—probably the latter—this is the dawning of the Age of Financial Astrology. At a time when the market has rarely seemed more unfathomable, astrology is gaining popularity as a forecasting tool, one with special appeal to those anticipating an imminent financial Doomsday.

APOCALYPSE SHORTLY. Some trappings of respectability have already arrived. There is a widely read market-astrology newsletter, *Crawford Perspectives*, edited by the veteran market technician and astrologer Arch Crawford, and even an Astrologer's Fund. In mid-May, about 50

has been an astrologer for 25 years and runs the fund from offices on Manhattan's Eighth Avenue, in a building that includes the Canine Human Rights League and overlooks a strip of garment-notion manufacturers and salvaged-goods outlets. "I go outside on the street, and I can see that we're heading toward a depression," he says. "All the big brokers are living in a dream world."

That's right, a depression. Astrologers are among the most pessimistic of market watchers, and Weingarten is downright apocalyptic. The reason? Look up—way up—to Uranus and Neptune. The two planets have lined up, and that is positively lousy, astrology-wise, for perhaps another two years.



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DID WARBURG GET GREEDY?

Controversy dogs the London bank's push for global stature

No one in London's august investment-banking circles was surprised when the government chose S.G. Warburg Group PLC to handle the July sale of its 22% stake in British Telecommunications PLC. An upstart bank for decades after its 1946 founding, Warburg now has impeccable connections with the British Establishment that guarantee it a place among London's dealmaking elite. The \$8 billion BT underwriting will rocket Warburg to the top of the 1993 list of Europe's investment banks.

But making it in London doesn't translate into becoming a major competitor in today's global markets. As the biggest British investment-banking house, Warburg is one of the few British firms with a shot at challenging such U.S. powerhouses as Goldman Sachs, Merrill Lynch, and Morgan Stanley in the world capital markets. To enter their ranks, it must first turn itself into a full-service, global securities house, the goal of Warburg CEO Lord Cairns.

Warburg has a ways to go. The huge offer is causing controversy in the European banking community, where there is a chorus of complaints from Warburg's fellow underwriters that Warburg wants to hog the deal. And even if the acrimony subsides, Warburg won't have the British government to lean on. With the BT deal, British privatization programs, which have been a major source of Warburg's global business, are coming to an end. In privatization deals outside Britain, from Spanish energy group Repsol to Singapore Telecom, Warburg has failed to win the lead role. "BT is the last one where they'll have a sugar daddy—the British Treasury," one source says.

To date, Warburg has little to show for its investment in the U.S. In the giant U.S. market for equities, Warburg was the lead manager of only one offering last year, a tiny \$45 million deal for Shaman Pharmaceuticals. Recogniz-



CEO CAIRNS: OTHER BANKS SAY WARBURG HOGGED A BT OFFER

ing this weakness, Lord Cairns recently tapped board member and former CBS Inc. chief Thomas H. Wyman to head U.S. operations. Wyman's job is to push Warburg's North American profits above 1992's paltry \$18 million.

"TABLE SCRAPS." Overall, the picture wasn't much prettier. In results announced on May 27, Warburg's entire pretax profit for the year ended Mar. 31 was \$229 million, down 11% from \$257 million, while Morgan Stanley & Co.'s profit for just one quarter ended April 30 was \$196 million, up 41%. In major new Asian markets, Warburg has managed only slender earnings after it tried to set up an equities group in Tokyo just as prices on the Nikkei were collapsing. Warburg is optimistic its critics will be silenced based on mergers and equity deals it has in the pipeline.

Cairns is betting that the BT deal will go a long way to turning all that around. Already, thanks to this high-profile job, Warburg has a shot to be lead banker for a \$2 billion Euro Disney offering. But a mini-revolt ensued among BT syndicate members when Warburg insisted that only it and its 11 partners,

including Merrill Morgan, could market BT stock to institutional investors. And in the first two weeks of marketing, even though firms will be allowed to market BT shares to institutions in some regions. Warburg alone will not be the lead in a region, leading to a global manager grumble privately. Warburg was furious at the deal so that it would get most of the commissions.

Warburg's tactics in the BT privatization could cost the bank dearly. Excluded from the list of 11, French Banque Indosuez dropped out of the deal once it learned it would not sell stock to the manager of a London fund owned by the bank itself. Four European banks and brokers dropped out as well, with one

complaining they were left with "scraps." This discord does not bode well for Warburg's plans to win a piece of the huge upcoming privatization offerings in France.

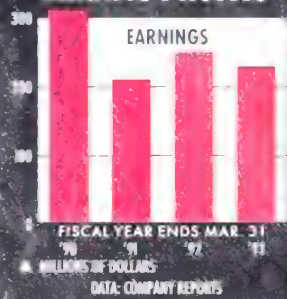
Others complain that Warburg is allowing only its own representatives to attend meetings between BT executives and potential investors. "They want a commission on the BT deal, and they want to cement a relationship with the banks' clients, so they'll get a piece of the next deal as well," says one rival.

Warburg's defenders, however, say the complaints come mainly from investment bankers who didn't get top billing in the BT deal, and they add that the British government is watching closely to make sure the deal is allocated fairly. Warburg officials, citing U.S. securities regulations, refused to comment on the BT offering.

Although the London rumor mill has Warburg merging with J.P. Morgan & Co. one month and Lehman Brothers the next, Warburg for now seems to be staying independent. Managers have reduced staff and other overhead and are turning their attention to strengthening weak areas, including the bank's Japanese operations. But even if Warburg has what it takes to become a world-class player.

By Paula Dwyer in London

WARBURG'S ERRATIC PROFITS

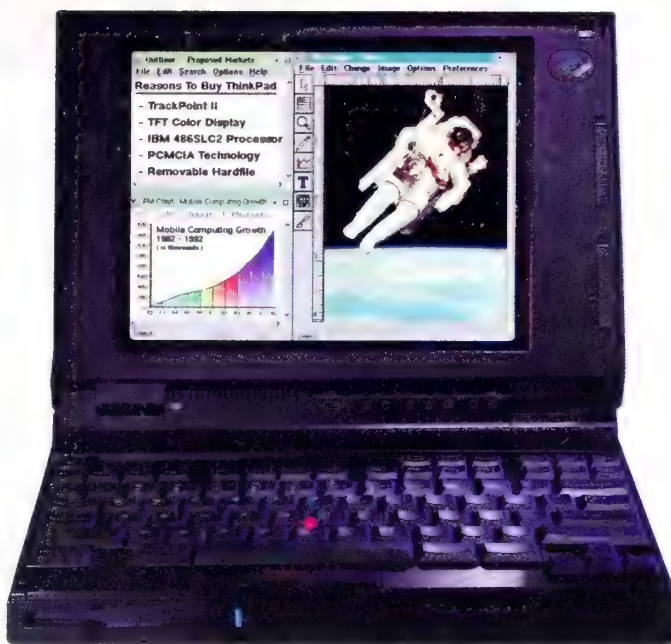


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BY GENE G. MARCIAL

IF EMISPHERE ACES THIS 'ORAL' EXAM . . .

Emisphere Technologies is a biotech play that's not for the faint of heart. Its shares rocketed in early 1991—from 10 a share to 36 by early 1992. Then, like a bungee jumper, the stock plunged to 12 in early 1993.

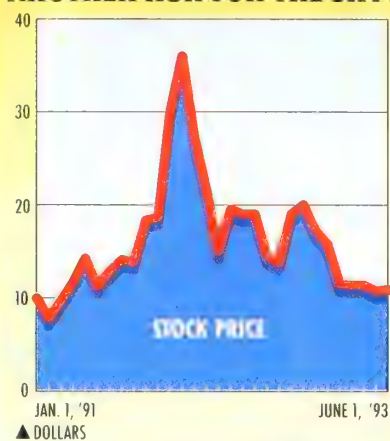
Now at 10%, a few biotech daredevils have been buying in. Why? Some money pros insist that Sandoz, a Swiss chemical and drug giant, will soon make an "important" announcement about Emisphere Technologies' oral-delivery system for complex drugs. And Emisphere is said to be close to signing a new licensing pact with another major drug company. Emisphere is developing a technology that allows drugs to be administered orally instead of injected into the bloodstream.

"Encouraging results from several animal and human studies have already led to seven licensing agreements with major pharmaceutical companies," including Upjohn, Schering-Plough, and Sandoz, notes Evan Sturza, editor of *Sturza's Medical Investment Letter*, who is high on Emisphere. The technology involves encapsulating a drug in tiny spheres composed of proteinoids, chemically linked amino acids. The non-toxic proteinoids go through the stomach and into the small intestine, where the encapsulated drug is released.

'HOLY GRAIL.' The talk is that Sandoz will soon start its own human clinical testing for Calcitonin, a drug used for treating osteoporosis, using Emisphere's oral-delivery system. "Such an announcement by Sandoz would be a most important event for Emisphere because it will validate the efficacy of its delivery technology," says one New York money manager. Calcitonin generates annual sales of nearly \$1 billion as an injectable drug. So if Sandoz is able to make an oral version of the drug, it could double sales, this pro says. Sandoz spokesman Larry Bauer says: "It's premature to speculate on the company's agreement" with Emisphere.

Emisphere is also discussing with several drug companies a contract to develop the oral delivery of heparin, an anticoagulant drug and human-growth hormone. "Oral delivery of drugs is the Holy Grail of biotechnology," says Dr. Brandon Fradd, an analyst at Montgomery Securities. "We expect the first

WILL EMISPHERE MAKE ANOTHER RUN FOR THE SKY?



products from Sandoz and Schering-Plough and heparin to enter formal human trials starting this year and be launched [in the commercial market] in 1996-97," says Dr. Fradd.

So he sees Emisphere's stock doubling as the company signs up additional partners and starts more trials over the next 12 months. He figures Emisphere will start making money in 1997—about \$1 a share, rising to \$2 in 1998. Fradd's two-year target for the stock: 60.

SAY OLE! WITH THIS SPANISH PLAY

Seeking to buy into an aggressive and innovative bank whose stock has been performing superbly? No, it isn't Citibank or BankAmerica. It's Banco Santander, one of Spain's major commercial banks, whose stock has raced from 37 per American depositary receipts in late December to 46% on June 1. One ADR is equal to one share.

Money manager Richard King, a managing partner at Warburg, Pincus Counselors, is bullish on this Spanish bank, which has taken a 16% stake in First Fidelity Bankcorp and recently launched a takeover bid for Portugal's Banco de Comércio e Indústria. Santander is one of the fastest-growing bank stocks in Spain. The stock "has a lot more upside power ahead," says King. Santander has dictated the "pace and direction of the Spanish banking industry," adds King, who runs the \$220 million Warburg Pincus International Equity Fund.

Santander has led the way in introducing new products, such as the "Super-Cuenta" interest-paying checking account and "Fondos de Inversiones"

mutual funds. Santander also has aggressively expanded into an array of services, including investment banking, securities trading, and fund-management, which have boosted earnings. The bank has expanded overseas, too, forging ties with Royal Bank of Scotland, Belgium, Germany, and Portugal. Santander owns a 9.9% stake in Royal Bank of Spain.

The bank's foreign subsidiaries accounted for 9% of consolidated assets in 1988 and grew to 20% at the end of 1992, notes King, adding that Santander's expansion has resulted in one of the "rapid balance-sheet expansions of all Spanish banks in years."

IS INTERACTIVE TV SO MUCH HYPE?

The latest buzzword on the Street, "interactive," and any stock involved in interactive television has been hot. Take Interactive Network, which has developed a proprietary system that enables viewer control over TV system and allows direct interaction with certain televised shows, including sports and game shows.

Hitting a high of 15 in early January, Interactive's stock came under tremendous pressure in February when regulatory concerns started to haunt the company. By April, Interactive's stock had plunged to around 4. Then on May 27, the company announced that it had purchased a 15% stake for \$10 million. The stock, which had been trading at 13, was currently trading at 10.

The stock has become a new target for the shorts, who contend that the excitement over interactive TV is all hype. The shorts say so-called interactive plays are way overvalued. So they have shorted some 10% of Interactive's 10 million shares outstanding.

No matter, says one bull on the street, veteran Wall Streeter Ray Dirks, who insists that the shorts are way off base. Dirks believes Interactive will be in the black by 1994 and earn 31¢ a share. Dirks is excited about 1995, when he figures the company will earn a \$3.53 a share based on estimated revenues of \$106.6 million and 300,000 subscribers. Last year, Interactive signed a joint venture in Japan with SEGA Enterprises, which has 14 million household subscribers. Interactive CEO David Hinton says Tele-Communication continues to buy shares in the open market. Two companies signed a stand-still agreement barring Tele-Communications from buying more than 30% of Interactive's

Meet The Drivers On The Information Highways



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HEALTH-CARE REFORM: IT'S ALREADY HERE

In many respects, America's medical future has arrived. It's not perfect, but it's working

Brian Lewis, 36, single, and healthy, never gave medical insurance much thought—until two years ago, when he got word his traditional plan was going up from zero to \$60 a month. That turned Lewis, a geologist for the State of California, into a health shopper: He interrogated friends and pored over all the data he could find on the eight health-maintenance organizations available to state workers in Sacramento. He settled on the Take-Care HMO, which uses a well-regarded hospital near his home. Although the

state picks up the fee, Lewis has his eyes peeled for an even better plan: "Your HMO is probably one of the more important decisions you make," he says.

When Lewis started his search, he had never heard of "managed competition." But to some degree, he's living it. Consumers shopping for coverage, giant purchasing cooperatives such as the California employee plan, and greater use of managed care are all elements of the model President Clinton is building his health-care reform proposal around. The idea is to create a market

that gives health purchasers the power to rein in the cost of medicine.

Critics deride managed competition as a complex, untested theory with prospects for success. It's "the domestic version of Star Wars," says House Energy & Commerce Committee Chairman Dan Rostenkowski (D-Ill.), requiring "a series of nonexistent technologies [to] be developed and linked together so that the system works flawlessly."

HOW MANAGED COMPETITION STACKS UP

THE NEW ORDER: PEDIATRIC CARE AT AN HMO IN ORANGE COUNTY, CALIF.



MANAGED COMPETITION	
HOW IT WORKS	Networks of doctors and hospitals that provide coverage for employees
STRENGTH	Cheaper than traditional insurance and helps reduce unnecessary procedures
WEAKNESS	Costs are rising as fast as insurance premiums

CONSUMER CHOICE	
HOW IT WORKS	Employees choose coverage from among a variety of competing plans
STRENGTH	Competition keeps costs down, and employees get what they want
WEAKNESS	Certain plans are more expensive for retirees who pay more for driving up premiums

QUALITY MEASUREMENT	
HOW IT WORKS	Give consumers information to compare health plans
STRENGTH	Indicators help evaluate providers in certain areas
WEAKNESS	Figures are from measurement periods and are incomplete

ut like Lewis, millions of Americans already dealing with key pieces of aged competition: managed care, capitated payments, purchasing cooperatives, and consumer choice. No one has put all the pieces together into one system. But some elements are working surprisingly well, both to control costs and to improve care.

Managed-competition advocates argue their plan can produce a system even better than its parts. In that case, pressure from consumers and regulators would force health plans to work constantly on developing more efficient care.

USER NETWORKS. Clinton buys this argument—up to a point. His plan will put the accent on “managed,” not “competitive.” He relies on regulation enforced purchasing cooperatives and a budget cap by government to limit spending. But a look at managed competition shows private employers are already making changes that he could build on. If all the pieces, managed care offers the greatest promise as well as the greatest uncertainty. HMOs were born in the 1930s, when employers began contracting with groups of doctors and hospitals to provide care for a flat annual

fee. But managed care took off in the 1980s, driven by soaring medical bills and a new twist on the HMO idea: preferred provider organizations (PPOs), looser networks of providers that offer discounted fees in exchange for a steady stream of patients.

AlliedSignal Inc. was a leader in developing PPOs. Beginning in 1988, it worked with CIGNA Corp. to recruit physicians and hospitals for its Health Care Connection PPO networks in 24 cities where it had its largest operations. Now, the figure is up to 29 cities. Employees in those areas—more than two-thirds of AlliedSignal's 70,000 workers—are required to sign up for the managed-care plan but can go to a doctor outside the network if they're willing to pay more, typically an extra 20% of their bills. An independent survey found that more than 85% of users liked their care, only slightly less than the satisfaction reported by those using traditional insurance. For AlliedSignal, the network cut the rate of medical inflation in half: less than 9% a year, vs. 18% price hikes for traditional insurance.

AlliedSignal may be lucky. Preliminary results of a University of Michigan study of 14 similar plans—large PPOs

with some freedom of doctor choice for members—show that one PPO cost customers more than traditional insurance, while 10 plans yielded savings of about 3%. Only 3 of the 14 plans are clear winners—those with carefully selected doctors who don't order unnecessary tests. “PPOs are a temporary phenomenon, a way to get people used to narrowing their choice of providers,” says Michigan health economist Dean G. Smith. “Big savings will come only when you change the way care is delivered.”

PROFIT MOTIVE. That's the strength of HMOs—the likely big winners under managed competition. Good HMOs save money by rewarding doctors for keeping patients healthy—not for doing more procedures. “Our clinical staff don't say: ‘I'm going to get paid more if I do two procedures instead of one,’” says Patrick H. Mattingly, a doctor who heads a division of Harvard Community Health Plan, a New England HMO covering 525,000 members. Instead, HMOs emphasize prevention and early detection.

This approach has helped HMOs slow the rise in their premiums. That's why employers are pushing workers into these plans. Digital Equipment Corp., for one, repriced its health benefit plans



RELUCING THE INFORMATION FLOW IS ONE OF THE BIGGEST CHALLENGES FOR

in 1990 so that employees would pay less for managed-care plans—lifting HMO enrollment from 30% in 1990 to 70% this year. Today, 26% of privately insured Americans are enrolled in HMOs.

But HMO premiums, while lower, are still climbing, and skeptics wonder how much more savings managed care can reap. With almost half the U.S. in managed care, William B. Schwartz, a professor at Tufts University's medical school, says a five-year campaign to en-

roll all Americans would trim only 1.5 percentage points off the rate of medical inflation. "Once the potential savings in [hospital] days are exhausted," Schwartz says, "there will be no further offset against the upward trend in costs."

Managed-care advocates say such computations sell their plans short. As more procedures are done in one-day surgery centers or doctors' offices, "HMOs are showing cost savings in outpatient settings as well as inpatient," says Alan

L. Hillman, a health economist at the University of Pennsylvania's Wharton School. And tightly managed care continues to chip away at the amount of unnecessary treatment Americans receive, he adds.

Most Americans equate quality of treatment with quality. But 25 years of research at RAND Corp., a Santa Monica (Calif.) think tank, shows that overpayment is common. Studies show thousands of surgical operations are performed with little certainty that they are needed or even helpful.

The tools to ensure the right amount of care will come from the rapidly growing field of quality assessment. Under Clinton's reform package, health plans will be required to publish indicators showing how well their members are doing. The Administration will propose instituting millions of dollars in systematic gathering and assess standardized data on everything from members' blood pressure to the cost of heart surgery. The data will help design norms for how treatments are best used. Besides cutting out unneeded procedures, such standards will help doctors fend off malpractice claims, reducing the need to practice defensive medicine.

CRUDE MEASURES. A cottage industry has already risen around comparing hunger for some sign of how well health-insurance dollars are spent. "It's like to buy everything, whether it's lima beans or typewriters, based on information," says Richard C. Dreyfuss, benefits director at Hershey Foods Co., a major user of hospital mortality and figures published by the Pennsylvania Health Care Cost Containment Council.

Business groups in Cincinnati, Cleveland, Memphis, and Orlando have launched ambitious "outcomes-measurement" projects to figure out which plans give the best care at the lowest price. The groups compare the outcomes of care—death rates, readmissions, complications—with treatments, length of stay, and cost. The calculations are technically difficult and locally charged, since hospitals that poorly are likely to lose business.

Yet even these crude measures of care can have a startling impact on costs. In 1992, the first year of a quality measurement project run by four Cincinnati employers, the area's 10 hospitals cut their average length of stay by 10%, or 0.6 days per patient. Hospital charges rose only 6.8% in 1992, down from the 11% annual trend over the years. Most of the changes originated with doctors, who could see for the first time how their patients' hospital stays compared with those of other physicians. For consumers who can't inte-

PICKING A HEALTH PLAN: A PRIVILEGE OR A PAIN?

Anthony P. Sessa, an employee-training expert in Philadelphia, and Chuck Hummel, a Dallas engineer, get to shop for medical coverage every year. As federal workers, Hummel and Sessa can choose among a dozen or more local insurers or health-maintenance organizations (HMOs). The result? Depends which person you ask.

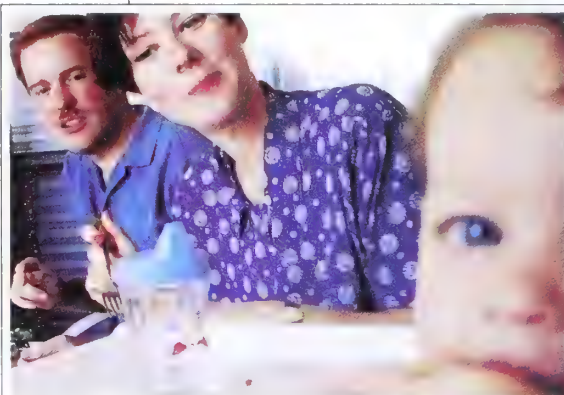
Sessa, 57, sees each fall's "open season" as a chance to control how he spends his money. Sessa and his wife first switched to an HMO eight years ago, then changed in 1989 to a different HMO—the Health Insurance Plan/Rutgers—to save \$28 a month in premiums. "I knew I could get about the same type of health care for less money," says Sessa, chief of a training center of the Office of Personnel Management.

For Hummel, the plethora of choices under the Federal Employees Health Benefits Program (FEHBP) has led to frustration. The 34-year-old Hummel, who works for the Internal Revenue Service, considered changing insurers last fall but gave up when he couldn't figure out which plans included the doctors he liked. "If you don't have anyone's experience to go by, it's almost impossible to judge between plans," Hummel says. Since 1983, he and his family have stayed with the Government Employees Hospital Assn., an employee-owned insurer.

INCHING UP. Enjoyable or frustrating, consumer shopping has had one big benefit: It has held down health-care costs. Premiums for the FEHBP, which are shared by the government and its workers, have risen at a 10.8% annual

rate since 1980—far less than the 14.4% premium increase faced by private employers. And competition for enrollment has forced some 20 insurers and 370 HMOs to control costs without sacrificing service.

Managed-competition advocates applaud the FEHBP but would change three features: They would require plans to offer standardized benefits. Plans should also publish quality data. That way, consumers could shop on



HUMMEL: "IF YOU DON'T HAVE ANYONE'S EXPERIENCE TO GO BY, IT'S ALMOST IMPOSSIBLE TO JUDGE" THE PLANS

price and quality—not on which plan covers braces or eyeglasses. In addition, advocates would pay more to plans that attract older, sicker consumers. In the FEHBP, retirees tend to cluster in a few plans, driving up costs.

Despite its flaws, the FEHBP "offers solid evidence that the market can work, even in health care," says Alain C. Enthoven, the Stanford University economist who developed the idea of managed competition. If President Clinton agrees, more Americans will gain the opportunity to shop for the plan that suits them best.

By Mike McNamee in Washington, with Joseph Weber in Philadelphia and Wendy Zellner in Dallas

ARE WE WORTH?

When Eastman Kodak Company announced that restructuring guru Christopher Steffen would have another shot at a turnaround in 1993, the press immediately dubbed Kodak's new chief financial officer the billion man — that's how much the value of Kodak's stock jumped within one day of Steffen's appointment in January. Steffen is one of a new breed of financial executives transforming business and creating a dominion that stretches from the simply financial to encompass the full range of corporate strategy. Though some have moved only haltingly — clinging to the familiarities of the past — others, like Steffen, have dared to hasten forward, assuming a higher niche in the corporate pantheon. There they affect corporate strategy — and corporate performance — like never before.

Those garden visions of a Steffen-initiated restructuring at Kodak vanished a little more than 100 days after his arrival. On January 28, the value of Eastman Kodak common stock lost more than \$1.5 billion in one day — the day Chris Steffen left. — Charging Steffen hit a management road block. Nowhere is the fast-changing value of the CFO more evident than in Steffen's brief encounter with Kodak. How has the CFO consolidated so much power, and how does this shift in the executive suite impact corporate America?

The 1993 Business Week Forum of Chief Financial Officers, Steffen addressed more than 100 CFOs who convened under the auspices of Business Week. Collectively, they represent the highest echelon of North American financial management — the CEOs of America's largest corporations. They discussed strategies for meeting the challenges of a rapidly accelerating business environment, and changing the role of them must play personally.



THE 1993 FORUM OF CHIEF FINANCIAL OFFICERS

PRESENTED BY
BUSINESS WEEK

*How has the CFO
consolidated so much power,
and how does this shift in
the executive suite impact
corporate America?*

IT'S NOT EASY SEEING GREEN

Understanding the CFOs' recent ascent is a two-step process. First, dispel the green-visored, sleeve-gartered, greenback-thumb-ing image of the bean counters. They are gone. Machines count the beans. The CFOs' time and talents are free to apply to more complex, strategic issues.

Next, consider the virtuosity demanded of the CFO: corporate seer — surveying labyrinths of market complexities; corporate policeman — ever wary of encroachments upon shareholder value; corporate financial acrobat — agile in the most astounding fiscal maneuvers. The virtuoso CFO integrates financial data with business realities to answer the quintessential question: What are we worth? The answer dares the CFO to abandon the comfort zone of "the way we do things around here," and be a leader.

GOOD-BYE COMFORT ZONE

In times of dynamic change, doing things the old way can lead to disaster. Defying the comfort instinct, the CFO gears up to reinvent the corporation.

"The past tends to have an iron grip on human beings," observes Charles H. Adams, CFO of Omni Hotels. "Human beings and the organizations they run tend to want to stick with the successful formulas that brought them victory. But to restructure successfully, companies must recall an old-fashioned rule of business: live in the here-and-now."

Antiquated corporate structures, corporate cultures resistant to innovation, clots in the flow of information, and many other hurdles block the way. They must be addressed with care and strong leadership.

"To initiate any real corporate-wide change," says Colgate-Palmolive Senior Executive Vice-President and Chief Financial Officer, Robert Agate, "the CFO must combine good communication with simplicity and effective teamwork."

"For the CFO, rightsizing, retooling, and reengineering is fundamentally about

our own productivity," says Adams. "It's about how successful we are at finding better ways to produce value for our shareholders."

TAKING CARE OF BENEFITS

Employee benefits are both the largest and most sensitive targets CFOs confront as they set about creating value by implementing significant change within the organization. Milliman & Robertson, an actuarial and employee benefits consulting firm, circulated an attitude survey among the CFO participants shortly before the *Business Week* Forum.

In the survey, Robert Collett, chief executive officer and president of Milliman & Robertson, asked CFOs to assess how their organizations stand up against others in the critical area of benefits and workers' compensation issues.

Regarding health care, 67% of CFOs responding think that although costs are high, their organizations are successfully reducing their rate of growth. One hundred percent of the CFOs responding

report having changed their health care plans within the last two years by requiring more employee cost sharing and adding managed care programs such as HMOs or PPOs.

Health care is not the only corporate "entitlement" on the minds of the CFOs. The Milliman & Robertson survey also reports that 55% have experienced increases in workers' compensation costs of more than 30% over the last five years. Most



Robert Collett
PRESIDENT AND CHIEF
EXECUTIVE OFFICER,
MILLIMAN & ROBERTSON

"It is imperative that chief financial officers assess how their organizations stand up against others in critical benefits and workers' compensation issues."

attribute the rising costs to a combination of medical cost inflation, lawyer intervention, and an increasing occurrence of fraudulent claims.

Milliman & Robertson's work also reveals deep concern among CFOs over retirement savings policies, both corporate and state. Eighty-nine percent of CFOs responding are not confident that current national retirement savings



Five prominent economic thinkers participated in *The 1993 Business Week Forum of Chief Financial Officers*. They addressed the most critical issues affecting economic recovery over the next several months and throughout the Clinton administration. Here are some highlights.

Dr. Laura D'Andrea Tyson

CHAIR, PRESIDENT'S COUNCIL OF
ECONOMIC ADVISORS

The view that all the dollars that the government spends are the same is misguided. They are not. If the government spends money to build a highway to move private goods and services more quickly, that helps the economy. If the government spends money on training programs to enable new people to enter the workforce, that helps the economy. This type of spending is fundamentally different from the type that subsidizes honey producers.

Dr. William Freund

CHIEF ECONOMIST EMERITUS,
THE NEW YORK STOCK EXCHANGE

The structural federal budget deficit poses a significant obstacle to gaining economic momentum. With its deficit and its taxes, the U.S. Treasury is crowding out private saving and investment. To create savings and make private resources available to fuel business and growth, we need less federal spending, not more federal taxes. The emphasis of Clintonomics on rising personal and corporate taxes, to be intensified when the health care shoe drops, will continue to limit economic growth.

policies will be enough to carry aging baby boomers through their golden years.

Asked to find solutions to the retirement funding crisis, CFOs suggest that the Presidential Commission study current retirement policies and recommend ways to simplify them while encouraging retirement savings. But in the meantime, is it possible to reign in rampant costs?

WOULD YOU LIKE TO SWING ON A STARBALL?

Welcome to Saturn Corporation's cost-cutting galaxy, a place unique in the corporate universe for shrinking the size of employee benefits.

Saturn Corporation Vice-President of Finance Thomas B. Manoff, describes the advantages of starting from scratch. "We were able to keep the parts of the GM benefit schedule that were working well and replace those that were not."

"We identified three areas for change: health care benefits, employee saving plans (401K), and pension and retirement plans." New plans were designed to make the programs more industry competitive, less costly, and easier to administer than their GM counterparts'.

A key feature in Saturn's system is a cafeteria-style selection of coverages designed to meet differing employee needs — and to see to it that employees remain cost-effective in making their health care choices.

Recognizing that health care costs are an ongoing problem, Saturn's is an ongoing solution. Annually, Saturn convenes a worker-management task force to review current plans, review the plans of Saturn's competitors, and forecast cost increases. Is it working? Manoff thinks so. "During the first year of the program, Saturn was able to collect cost information that allowed us to identify a reduction in certain health care outlays from year to year."

CFO AS PROFIT CENTER

When you have cut all the costs you can, then what? Some CFOs are developing and disseminating sophisticated financial tools that not only help the business exercise fiscal restraint, but also enhance corporate productivity. Big, company-wide leasing initiatives are an example. "Leasing provides 100% financing and keeps a company's bank credit lines wide open for other purposes," according to Sterling Chace, president of AT&T Automotive Services, a unit of AT&T Capital Corporation.

In 1993, it is estimated that equi-



H. Chadwick
 VICE PRESIDENT, AT&T
 AUTOMOTIVE SERVICES,
 A DIVISION OF AT&T
 INTELLECTUAL CORPORATION

is prepared to take
 initiative find leasing
 free an enormous
 amount of cash."

with obsolete technology.
 Leasing's tax advantages are an addi-
 tional draw. Because lease payments are
 deductible as a business expense, there is
 no burden of depreciation schedules or
 alternative Minimum Tax issues.
 CFOs have different needs, cash flow
 patterns and streams of income. Leasing is
 a viable financial alternative to meet those
 needs, so a company's cash is not tied up in
 equipment," Chadwick says.

POSITIVE OF DERIVATIVES

Another way CFOs use their own offices to
 make money for the shareholders is
 through derivative financial tools. Derivatives
 are the new age financial technology for the
 management of financial risk. They are
 simple. They are huge. And they have already
 transformed the way the world's capital is
 managed, enabling as many as three-fourths
 of corporate bond issuers to swap their
 fixed-rate obligations into floating-rate debt. The
 use of long-term capital at short-term
 interest rates. The financial technology of
 derivatives allows the Chicago Mercantile
 Exchange to trade \$12 billion of stock
 index futures daily — nearly double the
 volume of real stocks traded on the
 New York Stock Exchange.

In the midst of constant global fluctua-
 tion in interest rates, currencies, equity
 prices, and the cost of raw materials,
 derivatives form a whole new vocabulary
 protecting corporations from undue
 risk. Derivatives can even be a source of
 profit — turning the CFO's office from a
 pure cost item into a genuine money-
 maker, sometimes a very big one.

Jack Lavin, Bankers Trust managing

ment leasing will
 reach the \$120 bil-
 lion mark — in part
 because leasing
 does so much to
 grant the CFO
 more freedom of
 movement. Equip-
 ment leasing allows
 the CFO to transfer
 the risk of equip-
 ment ownership to
 the lessor, enabling
 the CFO to focus
 on maximizing the
 productivity of the
 equipment while
 hedging against
 the risk of getting



Edward V. Regan

NEW YORK STATE COMPTROLLER;
 MEMBER, FEDERAL COMPETITIVENESS
 POLICY COUNCIL

For companies to attract investors
 and credit in the future, they are
 going to have to tell those investors,
 and those that provide credit, some-
 thing about their long-term funda-
 mentals, or they won't attract the
 capital they want. Someday soon, a
 public pension fund is going to ask
 a major company to disclose their
 standards of employee satisfaction,
 their measurements of quality of
 goods or quality of services, and the
 like. When this occurs, I hope every
 CFO in this room is prepared. For it
 is the CFO, not the marketing people,
 not the personnel department, that
 can integrate non-financial measures
 with the traditional financial mea-
 sures. You've got the training, the
 discipline and the ability to do that.

Kenneth S. Courtis

SENIOR ECONOMIST, DEUTSCHE BANK
 CAPITAL MARKETS (ASIA) LTD.

No region of the world will be more
 important in the 1990s than the
 mega-market of 600 million con-
 sumers along the diagonal from
 Tokyo to Jakarta. Japan alone repre-
 sents two-thirds of the Asian econo-
 my. Japan and the Japanese firms
 play the key role in the development
 of Asia. If you do not have a Japan
 strategy, you do not have an Asia
 strategy. With Japan today on the
 defensive, now is the time to move
 in, snap up some market share, pick
 up assets, and renegotiate contracts.
 Because once the transition in the
 Japanese economy is over, Japan will
 be a tougher competitor than ever.

director for Corporate Capital Markets,
 identifies three breaking issues in the deriva-
 tives market, "the expansion into new
 product areas such as credit and insurance;
 a shift from tactical transaction hedging to
 strategic risk management; and an increas-
 ing emphasis on credit or counterparty risk
 management."

Lavin says that today, a corporate
 banker's principal task is to talk to CFOs and
 learn what is important to them; which
 risks they want to
 take and which they
 need to avoid; and
 then "bring them a
 relevant idea, varia-
 tion, or customized
 application based
 on the individual
 institution's needs.
 The solution may
 involve interest
 rates, foreign cur-
 rencies, commodi-
 ties, tax rates, equity
 markets, or a com-
 bination of several
 — a derivative."



Jack Lavin

MANAGING DIRECTOR,
 CORPORATE CAPITAL
 MARKETS, BANKERS TRUST

*"We've identified three
 important issues in
 the development of
 derivatives: the expan-
 sion into new product
 areas; a shift from
 tactical transaction
 hedging to strategic risk
 management; and an
 increasing emphasis on
 credit or counterparty
 risk management."*

WILL YOU STILL FEED ME WHEN I'M SIXTY-FOUR?

Last year's pro-
 nouncement by
 then candidate
 Clinton to curb ex-
 cess executive com-
 pensation set off a
 stampede of corpo-
 rate elite exercising stock options, accel-
 erating year-end bonuses, and acting to
 claim deferred compensation. The result-
 ing public attention has been an unwell-
 come spotlight on many a corporate inner
 sanctum.

William D. Smith, president of
 National Union, a member company of
 American International Group, Inc.,
 outlined the dilemma before a hushed
Business Week CFO Forum: "Shareholder
 activism against so-called excessive
 executive compensation is increasing
 dramatically. Now federal regulatory
 agencies, creditors, unions, and even the
 President are joining in."

But Smith does not see limits on salaries
 or stock options as the most threatening
 issue. "I believe the most significant



William D. Smith
PRESIDENT,
NATIONAL UNION,
A MEMBER COMPANY OF
AMERICAN INTERNATIONAL
GROUP, INC.

"I believe the most significant change — one that will continue to greatly affect the majority of senior executives — will be the security of executive retirement benefits."

Deferred Income Insurance, a casualty policy purchased by executives themselves. It puts teeth back into the promise of payment in case any of the exposures to which

change — one that will continue to greatly affect the majority of senior executives — will be the security of executive retirement benefits."

Unlike most employee benefits, the Pension Benefit Guarantee Corporation will not rescue these if a company goes bankrupt or is involved in a takeover or merger. Non-qualified benefits can be completely lost.

To restore security to senior executive retirement benefits, AIG has developed Executive



William Wolman
CHIEF ECONOMIST, BUSINESS WEEK

The past few months have been characterized by predictions all over the place that the period we've had since the early 80s is about to end. I've been told it's because a Democratic government has taken over in Washington. Now I do believe that it's going to end eventually, but I don't believe it's going to end very soon. Low-level inflation will, I think, continue for some period of time. It is behind much of what CFOs are concerned with; it explains much of why you have to behave the way you behave in order to survive; and it explains much about which companies succeed and which companies fail.

non-qualified benefits are vulnerable.

Smith points out that the insurance is a necessary outgrowth stemming from changes that have been made by the government to the structure of retirement benefits. "It is merely an attempt to put senior executives on *parity* with the rest of the work place in terms of retirement security."

AT THE CENTER

CFOs are among the senior executives personally concerned with the issue of executive compensation. Today they go without saying, but it was not always so. More than any other change they've experienced, it is their enhanced status in the corporate pantheon that most clearly reflects the vastly increased appreciation of the CFO's value.

The CFO is the sole individual positioned to marshal all the information needed to quantify the company's *net d'être*: its worth. Beyond determining and reporting shareholder value, to CFOs fuse the wisdom of finance with the savvy of business strategy, guiding the way toward long-term growth. In doing, they bravely and boldly redefining their corporations, and themselves.

A QUICK TALLY OF AMERICA'S CFOs REVEALS . . .

No shrinking violets, chief financial officers at *The 1993 Business Week Forum of Chief Financial Officers* commented throughout the two-day event. Using Quick Tally Interactive Systems audience response handsets, Forum delegates anonymously offered instant insight into their changing roles.

Let's Talk About Me

The past five years have indeed made the CFO more prominent in the corporation — according to 86% of Forum delegates. Thirty-six percent now serve on their firm's board of directors, and more than half report that their CFOs view them as their most important partner.

CFO as All-Knowing Seer

Although 61% of CFOs at *The Business Week Forum* believe the recession is over, a significant number remain unconvinced that recent reports of growth are sustainable.

Still in the doubting column, 38% think the economy will remain in recession, especially as tax increases and funding for health care reform come into play.

Change Champs

Ninety-one percent of CFO participants say they feel empowered to effect change and plan to use their growing influence to motivate all organizational players to secure and enhance shareholder value. Eighty-six percent feel they are making some headway in decentralizing cumbersome decision-making processes at the top. But communicating the CFO's mission throughout the organization has proven a more arduous task. Only just over half feel they have successfully involved their colleagues in the executive suite, and 88% feel they have yet to communicate their agenda effectively throughout the organization.

Health Care: Swallowing Hard

Cost-conscious CFOs are shedding traditional health care plans in favor of cheaper, innovative programs such as HMOs and PPOs. However, in one of the most

astounding results of the Quick Tally polls at *The Business Week Forum*, just 5% of CFOs responding have tallied their total direct and indirect health care costs, and only 26% have audited their current plans for effectiveness. On the retirement side, 70% say their senior executives' benefits are non-qualified — and that as many as 18% of senior executives do not even know it.

Home, Sweet Home

Though strategizing for growth has taken American CFOs onto the global economic stage, many have so far limited themselves to cameo appearances. The economies of Asia are by far the fastest growing in the world, but the majority of CFOs responding spend less than 15% of their effort there; nor do they expect to significantly increase their own Asian attention over the next decade.

Business Week Executive Programs in-ball polling made possible by Quick Tally Interactive Systems of Beverly Hills, CA

ex statistics, the HMO industry is being "report cards" that compare procedures as a health plan's rate category with national averages. These "stress measures" highlight the pre-care strengths of HMOs rather than whether their patients are healthy or not. But "we know that when outcomes are bad, it's usually because processes are bad," says Sheila Leatherman, vice-president of Minneapolis-based United HealthCare Corp., author of the report chart (table). "We don't need more proof that breast cancer is more likely to be found if we need to make sure more women get mammograms."

ARDS. Good measures of quality require good data. But the tons of paper required in today's health system track records, not patients' well-being. In an attempt to collect better clinical data, Seattle's Health Care Purchasers Association (HCPA) is testing an ATM-style insurance card for employees of its member companies. One swipe of a patient's card through a magnetic reader in the doctor's office can call up a medical history, alert the billing office to insurance status, and let the nurse send lab results straight to the hospital. The HCPA estimates the system will cut billing costs by as much as 20%—but its main attraction may be a treasure trove of data for researchers trying to measure the effectiveness of various treatments. The Clinton reform team hopes that its proposed "health-security cards" can produce similar results—provided that designers can avoid the grave privacy risks posed by automated systems.

Who are the health-care buyers that will use all these data? Managed competition calls for two types of buyers. At the wholesale level, a statewide or regional "health-purchasing alliance" which represents employers, government, and others, will negotiate for the best rates from HMOs, PPOs, and insurers. The non-union alliance will then act as a broker to sell benefits to consumers, who will select the health plan they want from the alliance's list. At the retail level, regional alliances that exist yet, but their members do. Business coalitions from Orlando to Seattle formed purchasing cooperatives to get big-group insurance rates for small businesses. The 170 member companies of the Colorado Health Purchasing Alliance—led by Anheuser-Busch and Coors Co. to the



CATCHING FLAK: CRITICS DERIDE MANAGED COMPETITION AS A BOON TO INSURERS

37-employee Lodge at Cordillera near Vail—formed their own provider networks in 1988, negotiating discounted fees with doctors and hospitals. After watching premiums rise by 25% to 100% for several years, Denver's Royal Crest Dairy Inc. joined the alliance in 1989. Since then, Royal Crest's health costs for its 280 employees have risen by 10% to 15% a year, in line with national averages for much larger employers.

More buying power can produce even more savings. In 1990, California froze its contribution to state employees' health benefits, forcing the California Public Employees' Retirement System

to take a tough line toward the 27 health plans that cover its 887,000 members. When California's biggest HMO, Kaiser Permanente, wouldn't rein in its premiums, CalPERS slapped it with a one-year freeze on signing up new members. The result: CalPERS' average premiums will rise only 1.4% for the fiscal year starting July 1—and Kaiser's premiums not at all.

FOOTING THE BILL. White House reformers plan to give their new alliances similar leverage in bargaining with health plans. Clinton may let alliances limit the number of plans they will deal with in an area, or set prices and force the plans to meet them. Managed-competition advocates worry that such powerful alliances could eliminate another competitive force that has been proven to hold down prices: consumer choice.

The best example of consumer choice in managed health care is right under the President's nose. Federal employees buy their health coverage through a system that gives each worker as many as three dozen health plans to choose from each year while holding down health-care costs (box, page 116).

As the President fine-tunes his reform proposal, he's seeking to do more than embrace the elements of managed competition. A key goal—and selling point—for the Clinton plan is health security, reassuring all Americans that they will have coverage even if they change jobs, have a chronic medical problem, or can't afford to pay the full premium. Clinton's plan will also seek to overhaul the insurance market, reform medical malpractice laws, and make medical services available in the inner cities and rural areas. And he'll have to appease critics who deride managed competition as a life preserver for insurance companies. Toughest of all: The President must figure out how to pay what could be an extra \$100 billion a year for the expanded coverage.

Those are daunting challenges that can be overcome only with perseverance and political will. But in the debate, no one should overlook that the foundations of reform through managed competition—thanks to pioneering employers and health providers across the country—are already firmly rooted.

By Mike McNamee in Washington, with Joseph Weber in Philadelphia, Russell Mitchell in San Francisco, and bureau reports

ONE MANAGED-CARE PLAN'S REPORT CARD

United HealthCare, which operates HMOs and PPOs around the country, grades health-care providers in four categories and compares the results with national averages. Here's a sampling of the rankings:

INDICATORS	UHC	INDUSTRY COMPARISON
CONSUMER SATISFACTION		
Customer service	94%	79%
Overall satisfaction	86%	81%
QUALITY OF CARE		
Pediatric immunization	77.3%	65%
Low birth weight*	1.7%	7%
OPERATING EFFICIENCY		
Employee turnover*	1%	NA
Monthly per-member costs	\$8.75	NA
COST REDUCTION		
Average hospital days**	4.1	4.8
1993 premium increases	9.5%	20%-22%

*LOW SCORES DESIRED **PER 1,000 MEMBERS

DATA: UHC, INDUSTRY STUDIES

EDITED BY AMY DUNKIN

Investing

A PORTFOLIO, A PC, A PASSION

It's 3 a.m. and the urge to make some money suddenly strikes you. Never mind that it's too late to interrogate your broker or to bounce investment ideas off your spouse. And if you already have an inkling of which stocks to buy, you surely couldn't place the order until after the exchanges opened in the morning. Yet you want to play the market—now.

These days, investment junkies equipped with a personal computer and modem can ring up financial advice and place orders for securities around the clock. Leading online information services—America Online (800 827-6364), CompuServe (800 848-8199), Dow Jones News/Retrieval (800 522-3567), GENie (800 638-9636), and Prodigy (800 776-3449)—cater to individual investors with a gaggle of financial-information products, ranging from market data bases and stock quotes to business news wires and electronic bulletin boards.

The services let subscribers trade on-line through discount brokers. CompuServe customers, for instance, have a choice of signing on with Spear Rees, Quick & Reilly, or E*Trade Securities; America Online, Dow Jones, GENie, and Prodigy users can go with Quick & Reilly, Fidelity, Charles Schwab, and PC Financial Network, respectively. Orders can be placed 24 hours per day; you can cancel the transaction before the market opens. Schwab customers on GENie even get 10% off the regular commission rates.

BEST-BET STOCKS. While the scope of the data in reach of your modem is immense, getting to the information may seem a bit daunting. America



Online and Prodigy are all the easiest to get for PC newcomers, though experienced investors may tap meaty data bases elsewhere. Just keep in mind that it's going to cost. Basic connection charges are relatively minimal, but investment services levy hefty surcharges. In on CompuServe, for example, is a data base of Wall Street analyst reports on more than 8,200 U.S. public companies and 2,300 foreign ones. A search of up to 10 companies costs \$7.50; retrieving text of a report costs \$1.50; a search for five company names via the TRW Business Credit Profiles on GENie costs \$7.50, and users fork over \$29 for each report they take a peek at.

Wall Street Edge, a financial digest on Prodigy, costs an extra \$19.95 a month (or \$1.95 a day). The service provides daily excerpts from some 150 contributing financial newsletters and a number hot line service, including the *Addison-Wesley Global Market Strategy* and the *Vanguard Advisor*. You can pore through a series of rumors and headlines heading "Wall St. Watch." Other Wall Street Edge features highlight long-term bets, best-bet low-priced stocks (generally under \$5), and mutual funds.

Investors can choose according to their own investment philosophy by signing into Strategic Investments, another pricey Prodigy service. For \$14.95 per month, users get access to a data base covering more than 5,000 New York Stock Exchange-listed stocks, plus 3,400 NASDAQ stocks, plus 3,400

A "stock analyst" feature within Strategic Investments you do limited screening selecting an industry and targeting price-earnings ratios, five-year earnings growth, dividend yields, any combination above. It's a "stock hunter" tool, can get a list of equities listed according to a variety of valuation models, including "wallflowers" (small companies with growth potential that are overlooked by institutional investors), "Ham & Dodd" (stocks sell at less than their expected earnings and dividends), and "One Up on Wall Street" (stocks worth considering if expected future earnings and dividends are more than twice the p-e).

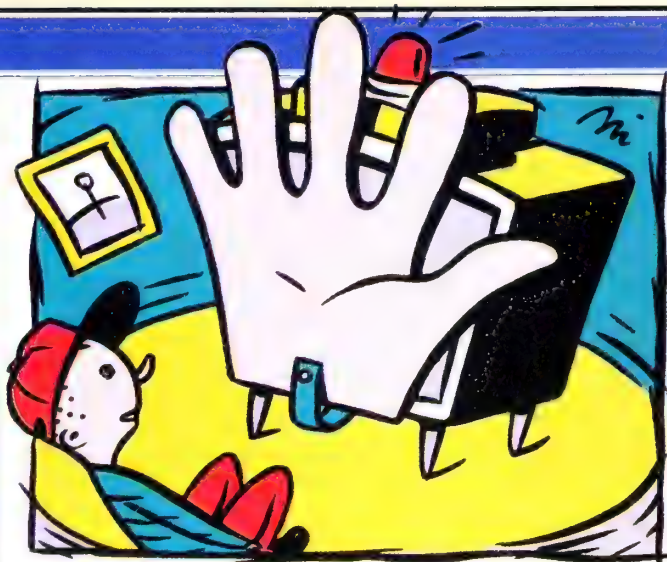
AND SHORTS. No matter how you arrive at an investment, you can discuss your selections with other investors by posting messages on the numerous computer bulletin boards. These boards are as on-line clubhouses with support groups.

Investment discussions can range from the map. On CompuServe recently, you could read messages on new financial software, a possible return of interest, and whether it makes sense to short the stock of

Snapple, a maker of soft drinks. A sample: "It has been enough volatility to keep both us longs and shorts happy."

As with any investment source, subscribers cruising the forums for insider tips should validate the credentials of the person trumpeting the information. To be sure, there's a fair amount of self-policing on computer bulletin boards; if you think you've gotten some bum advice, by all means go public. You can also send private electronic mail to the tipster. Says John Bajkowski, editor of the newsletter *Computerized Investing*: "I'd be leery of any stock or mutual-fund tip you get on-line. You're never sure of the person's vested interest."

Members can also engage in "live" chat with one another and sometimes with reputed investment experts. America Online, for instance, runs live conferences on Sunday evenings with Art Bechhoefer, a registered investment adviser. On June 7, former Fidelity Magellan whiz Peter Lynch will appear on Prodigy's Money Talk bulletin board to answer electronic queries from members. Who knows? Do enough poking around on-line services, and maybe you'll have a tip for Lynch. *Edward Baig*



Gadgets

RETAKING CONTROL OF THE TELEVISION

Face it, parents: Your kids aren't budging. You've been pestering them to pay more attention to their schoolwork and chores and knock off MTV and Nintendo. Yet you know the little rascals are stealing hours of unapproved tube time when you're not home to police them.

Cheating is out with the arrival of TV Allowance, TimeSlot, and SuperVision, a trio of small black boxes that impose a blackout on kids who watch more TV than you prescribe. The devices control the flow of electricity from the wall outlet to the TV set. You plug and lock the television's power cord inside the contraptions, then program in a viewing allowance for each child. When the kids exceed their limits, the TV shuts off.

MASTER CARD. With TV Allowance and SuperVision, parents and kids punch in personal access codes on numerical keypads. Your password is the one with clout, used to select viewing patterns for up to four children. SuperVision (\$90 from Tecrics Labs, 800 845-1911) lets parents choose daily or weekly limits. You pick a weekly allotment with TV Allowance (\$99, 800 231-4410), although a "save" function lets the kids accrue TV

credit from week to week.

Kids are issued TV credit cards with TimeSlot (\$130 from the North Carolina Public Television Foundation, 919 549-7132). You activate the system by swiping a special parent credit card through a small groove on the TimeSlot unit; you can grant each child from 1 to 90 viewing hours. The kids use their own plastic to turn on the set or to check how much credit they have left. TimeSlot comes with one parent card and four child cards; four extra cards go for \$8.95.

Rest assured, the elders can program any of the systems to catch their own favorite programs. While each device can block out specific times when you don't want your children watching, none of the gizmos will let you delete individual channels. Many cable boxes and several newer television models and remote controls have features that allow mom and dad to play censor.

The new devices may help teach adolescents such grown-up concepts as time management and the art of compromise. Your kids may even want to steal some extra viewing time by sitting on the couch and watching *Masterpiece Theater* with you. *E.B.*

DIALING FOR DATA

PRODIGY

Handy graphics for beginners, though you'll have to put up with scrolling advertisements. Pricy add-ons such as Wall Street Edge and Strategic Investor provide stock tips, Wall Street rumors, and limited stock screening.

COMPUSERVE

One of the most extensive on-line services. You can get access to Wall Street analyst reports, S&P Online earnings projections, and SEC filings, all for extra surcharges.

GENIE

Monthly price includes the Investor's Roundtable bulletin board, but the interface is clunky. Serves as gateway to numerous expensive data bases, such as TRW Business Credit files and Investment Analyt.

AMERICA ONLINE

Handy interface lets you easily chat with other members. Separate forum to discuss market timing and technical analysis, and Bulls & Bears, a stock market simulation game with real market prices.

DATA BUSINESS WEEK



It isn't supposed to happen. The world is awash in overcapacity, wages are stuck in the mud, unemployment is high, and many prices are falling. Yet inflation shows signs of coming back.

Not in a big way—yet. Economists who had projected 3% inflation now expect 4% in 1993. And investors worry that interest rates have bottomed out and may soon rise. Even if you doubt inflation is imminent, it's not too soon to strategize. "By the time you see the whites of the eyes of the next inflation," says James Grant, editor of *Grant's Interest Rate Observer*, "the hedges will be highly priced."

When inflation strikes, rising prices rattle investors' faith in paper. They flee into tangible commodities such as gold, oil, and real estate. But this time may be different. For one thing, 4% inflation is a far cry from the double-digit days of the late '70s and early '80s. "Investors have to choose between a hurricane and a breeze strategy," says Dick Hoey, chief economist at Dreyfus. The signals point to an inflation breeze—a gradual lift in rates. "In these conditions, the stock market does O. K.," says Hoey, "because the earnings rise is powerful enough to balance the inflation rise."

ESCHEWING TOBACCO. Businesses that will be able to raise prices can benefit most from inflation. Industries that have downsized and are operating at tight capacities, such as steel, petroleum, and textiles, should fare well, says Hugh Johnson Jr., chief investment officer at First Al-

Smart Money

HOW TO STAY AHEAD OF THE INFLATION CURVE

bany. So should cyclical, which rise as the economy improves. David Shulman, equity strategist at Salomon Brothers, recommends PPG Industries, Allegheny, and Plains Petroleum.

What to dump? Lighten up on utilities, which act like bonds, and consumer staples

bonds so you can capture higher returns as rates rise, says First Albany's Johnson. Upgrade your holdings because inflation fears can harm leveraged companies. Buy coupon bonds instead of zeros, which don't pay interest that can be reinvested at higher rates.

AN INFLATION INVESTOR'S GUIDE

CASH Rising money market and CD rates will boost yield. But initially rates may not even keep pace with inflation.

BONDS Move out of long-term issues and into short-term bonds.

STOCK Look for companies with pricing power in cyclical industries, such as textiles and paper.

GOLD The Old Faithful of inflation-hedges. Mining stocks are more volatile than bullion, and so rise—and fall—faster.

OTHER COMMODITIES Oil and gas, coffee, silver, grains, and other commodities may not soar, but many are extremely cheap and potential good buys.

REAL ESTATE It may take a while to pay off because overcapacity is still swamping the market.

DATA: BUSINESS WEEK

such as tobacco where price competition is stiff, says Shulman.

Bonds are the biggest casualty of inflation. As interest rates go up, holders who bought at low rates are stuck with shrinking returns. If you're not ready to sell, you can hedge with bonds. Switch from long- to short-term

Gold tends to shine when inflation heats up. Strong Asian demand has already driven gold prices up. To be on the safe side, you may want to dip a toe in. Dick Young, editor of *Richard C. Young's Intelligence Report*, advises readers to put only 10% of your portfolio into a gold fund at this early stage of in-

flation. "Buy it with the cash that you won't make money," Young says. Fully, your other assets do well, but if they don't, you'll be damn happy you were in gold."

HOUSING TROUBLE. Arace, who handles gold for John Hancock's Freedom & Government Fund, recommends putting 5% of your portfolio into gold stocks diversified among solid American mining companies. Gold stocks are more volatile than bullion and do better when rates rise.

Real estate is another glib investment that was popular in the '70s. But it will take longer to pay off this time because the industry is swamped by overcapacity. "Housing has dramatically underperformed since the early '80s despite the low mortgage rates in years," says Gerald Guild, a fixed-income manager at Advest Group.

Some investors with pockets are finding it hard to get down on the farm, says my Diamond, publisher of *Grant's Prime Midwest*. Land, at rock-bottom prices, is paying 5% to 12% from local farmers, and the crop, or government subsidies to keep the land in production.

Other commodities offer a similar advantage. Silver and cocoa have been down for a long time, it may look like a good time to buy them. "To be an informed investor, you have to believe in new inflation, just find out what's cheap," says Grant. It means taking a look at investments that are overlooked. *Patricia*

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where you were supposed to be at 2 o'clock? Or faxed off a quick note to the school nurse when your youngest son had a bad case of the sniffles? Or told you the correct way to pronounce a word such as "threnody"? Or even played you the late local

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AREA DEVELOPMENT

29. Iowa Department of
Economic Development

requent-flyer miles have become a kind of currency—one that hotels are increasingly willing to trade. This summer, major hotel chains have launched new programs to attract frequent flyers, making the next few months an ideal time to earn miles while staying on the road.

The problem for even the best traveler is that it's increasingly complicated. There are frequent-flyer, frequent-sleeper, and even frequent-driver programs, and

Travel

SAUNA, LOUNGE, CONCIERGE —AND FREQUENT-FLYER MILES

not the member has an airline ticket. Even better, the hotel will double the miles accumulated after five stays, allowing participants to earn a free flight on some carriers after 20 stays—and only 10 stays with Continental. But you don't have to stay at

miles for a domestic round-trip ticket.

After choosing a frequent-flyer program, find out which hotel and rental-car programs the airline is tied in with and use them whenever possible. As with the airlines, it takes some finesse to choose the

best hotel deal. For instance, Inter-Continental Hotels is the only hotel chain to offer bonus miles each night instead of each stay, but the rooms are expensive and there are only 15 hotels in all of North America.

Jim Williams, an executive at Luce Press Clippings, spends more than 100 nights a year away from his home in Mesa, Ariz. He stays at Hilton, flies United or Delta, and rents cars from National, earning air miles from all three as well as bonus points from National on his Hilton HHonors program. This summer, he is flying

to London gratis on Delta and staying free at Hilton for a week, cashing in air miles and Hilton HHonors points.

For serious mileage hunters, it's sometimes better to jump from hotel to hotel and follow the seasonal promotions in search of the most bonus

miles. American AAdvantage and United Mileage Plus program members can earn double miles this summer as part of Inter-Continental's Spectacular Summer Options program. The program also offers a 50% cut in room rates through Sept. 12. Last winter, Radisson offered triple miles (1,500 mileage credits) for each stay for members of its airline partners' programs. Offered for the past two years, the chain anticipates offering it again next year. Hilton HHonors is promoting a "double-dip" program granting guests who accrue both air miles and points a free weekend night for every three stays and two weekend nights for every five stays from May 15 to Aug. 15.

KEEP SIGNING. Bobby Finken, a salesman from Dallas, estimates he earns only 20% of his vast wealth in air miles by actually flying. Car-rental companies, which typically offer 500 miles per rental but are just as liberal with their double- and triple-bonus-mile promotions as the hotels, add substantially to his cache. Finken also recommends signing up with credit cards, long-distance phone companies, dining-out programs, and other companies that offer tie-ins with airline frequent-flyer programs.

The idea is to earn the most miles while spending the least amount of money. Finken earned 9,000 miles, nearly half what it takes for a free ticket on one weekend trip to New Orleans by combining promotions and programs. "It's a game, that's all it is," says Finken. These days, the game has never been more lucrative. *Amey Stone*

TURNING HOTEL STAYS INTO FREE FLIGHTS

HOTEL	AIR MILES EARNED PER STAY	HOTEL STAYS NEEDED TO EARN FREE FLIGHT
MARRIOTT	500 1,000	20 AMERICAN, NORTHWEST, USAIR, TWA 10 CONTINENTAL
HILTON	500 1,000	40 AMERICAN, AMERICA WEST, UNITED, USAIR 30 DELTA
RADISSON	500 1,000	40 AMERICA WEST, NORTHWEST, UNITED, USAIR 20 DELTA
INTER-CONTINENTAL	500 1,000	40 AMERICAN, UNITED 20 NORTHWEST, UNITED, USAIR 30 DELTA
WYNDHAM	500 1,000	40 USAIR



of them overlap. Yet by combining the programs, travelers can not only clean up air miles but also earn miles on hotel programs to free rooms and other ties.

TIPS. Most hotels remember to fly a particular airline and show a valid ticket at check-in to get a 500-mile bonus, but some hotel programs will give you 1,000 miles if you fly on Delta Air Lines or Continental Airlines. They will offer double or triple miles during specific periods.

The game became more interesting for travelers in 1993 when Marriott launched the Mileage Plus program, which does bonus miles whether or

Marriott to earn miles without flying: Hotels linked with United Airlines and American Airlines will usually grant free miles without your having to show a valid ticket at check-in.

Newcomers to the frequent-flyer game should first decide on an airline program, says Stan Dale, editor of *Mileage & Points*, a newsletter for frequent flyers. Some subtleties come into play. It's easiest to accumulate points on Continental, but it's difficult to use them because seats for frequent flyers aren't readily available. Delta offers 1,000 miles per hotel stay but requires 30,000 air miles to earn a free flight. Other airlines require a minimum 20,000

Worth Noting

■ **LEMON LOOKOUT.** Cars that sustained saltwater damage during flooding on the East Coast this past spring are being sold across the U.S., warns the National Insurance Crime Bureau. Saltwater causes hidden damage to an automobile's electrical system that can be both expensive

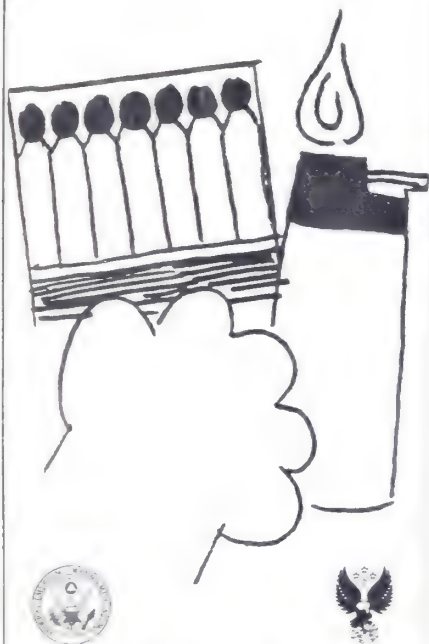
to repair and hazardous on the road.

■ **MBA FINANCING.** The *Official Guide to Financing Your MBA* (Graduate Management Admission Council, \$10.95) offers advice on tapping tuition sources for B-school. To order the 240-page book, send a check to the Educational Testing Service, Publications Order Services, P.O. Box 6736, Princeton, N.J., 08541.

CURIOUS KIDS SET FIRES

When a kid strikes a match, fire strikes back! Children don't realize that a simple flame can blaze out of control in mere minutes. That may be why nearly twenty-five percent of the fires that kill young children are started by children themselves playing with fire.

Don't let fire strike your family. Always keep matches and lighters far out of the reach of children.



A message from your local fire department, this publication, and the U.S. Fire Administration.

Index to Companies

This index gives the starting page for a story or feature with a significant reference to a company. Most subsidiaries are indexed under their own names. Companies listed only in tables are not included.

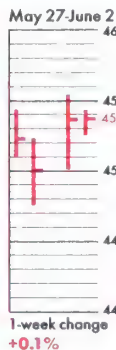
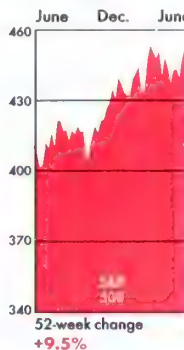
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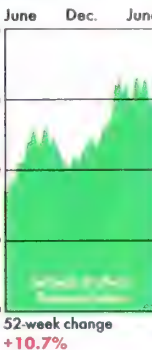
STOCKS

For week in the financial... S. stocks and bonds... sharply on May 30. The... word of a less-than... increase in the gross... product, a measure of... growth. The dollar... and that prompted the... the financial markets... overseas markets per... even worse, with the Tokyo... declining sharply during... The setback in the dollar... led to give up some of its... ns.

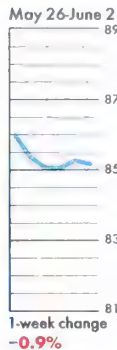
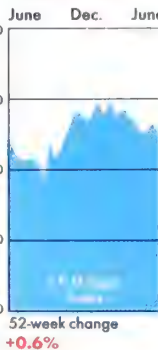
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

	Latest	% change Week	52-week
STOCKS			
S&P 500	453.85	0.4	4.3
INDUSTRIALS	3553.5	-0.2	15.2
COMPANIES (S&P MidCap Index)	167.4	0.7	17.0
COMPANIES (Russell 2000)	233.9	0.1	11.1
COMPANIES (Russell 3000)	259.8		
BONDS			
FINANCIAL TIMES 100	2863.0	0.6	6.8
NIKKEI INDEX	20,691.7	-1.0	13.8
DAX COMPOSITE	3859.8	-0.1	13.3

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	3.13%	3.10%	3.80%
30-YEAR TREASURY BOND YIELD	6.88%	6.92%	7.88%
S&P 500 DIVIDEND YIELD	2.75%	2.78%	2.98%
S&P 500 PRICE/EARNINGS RATIO	22.9	22.9	25.4

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	442.3	441.5	Positive
Stocks above 26-week moving average	59.6%	56.9%	Negative
Speculative sentiment: Put/call ratio	0.39	0.35	Neutral
Insider sentiment: Vickers sell/buy ratio	2.40	2.46	Neutral

INDUSTRY GROUPS

	% change 4-week	52-week	Strongest stock in group	% change 4-week	52-week	Price
WEEK LEADERS						
MANAGEMENT	19.7	-18.4	NATIONAL MEDICAL ENTERPRISES	24.6	-33.9	9 1/2
APPAREL RETAILERS	15.2	18.0	GAP	23.8	4.8	35 3/4
GAS DRILLING	15.0	50.7	HELMERICH & PAYNE	16.1	51.6	36
INDUCTORS	14.6	109.3	NATIONAL SEMICONDUCTOR	19.2	47.6	15 1/2
AND MOTELS	13.1	66.8	HILTON HOTELS	17.0	7.0	51 5/8
WEEK LAGGARDS			Weakest stock in group			
FACTURED HOUSING	-9.3	13.4	FLEETWOOD ENTERPRISES	-10.1	13.1	17 3/4
NG	-7.9	-24.1	ROADWAY SERVICES	-9.1	-28.7	53 5/8
CARE SERVICES	-7.3	-31.0	AMGEN	-11.0	-40.6	36 1/4
INSURANCE	-3.0	34.9	JEFFERSON PILOT	-6.9	19.1	49 1/8
DBILES	-2.3	23.1	FORD MOTOR	-4.9	19.4	53

MUTUAL FUNDS

	%	LAGGARDS	%
Four-week total return			
ON STRATEGIC INVESTMENTS	32.9	STEADMAN AMERICAN INDUSTRY	-4.8
SERVICES GOLD SHARES	19.3	STEADMAN OCEANOGRAPHIC TECHNOLOGY	-4.4
INTERNATIONAL INVESTORS	18.8	FIDELITY SELECT INSURANCE	-2.6
52-week total return			
ON STRATEGIC INVESTMENTS	58.0	PROGRESSIVE AGGRESSIVE GROWTH	-27.1
GOLD/RESOURCES	57.0	FINANCIAL STRATEGIC ENVIRONMENTAL	-23.1
STATE STREET GLOBAL ENERGY	56.5	G.T. LATIN AMERICA GROWTH A	-16.0



DIVERSIFIED PORTFOLIOS

	Foreign stocks	Treasury bonds	U.S. stocks	Gold	Money market fund
Units at the present \$10,000 one year ago portfolio					
as indicate	\$12,600	\$12,137	\$11,296	\$11,118	\$10,242
total returns	+2.09%	+1.43%	+1.30%	-0.89%	+0.05%

This page is as of market close Wednesday, June 2, 1993, unless otherwise indicated. Data include S&P 500 companies only; performance and share prices are as of market close.

June 1. Mutual fund returns are as of May 28. Relative portfolios are valued as of June 1. A more detailed explanation of this page is available on request.

THE PAYOFF FROM INFORMATION TECHNOLOGY

Productivity is the holy grail of American business. For the past decade, U. S. corporations have spent a staggering sum in search of it, only to be disappointed time and time again. Despite an enormous investment of \$1 trillion in information technology alone, productivity gains have crawled along at about 1% a year.

Until now. During 1992, productivity jumped by 3%—and over the past eight quarters of economic recovery, it has risen at an average annual rate of 2.3% (page 56). Best of all, service-sector productivity is finally beginning to take off and approach manufacturing's recent gains.

The great surprise behind the statistics is in why productivity is picking up. It isn't simply cost-cutting or because corporations have thrown huge sums of money at technology. The productivity lesson of the 1990s is that technology is necessary but not sufficient for productivity growth. The big gains come about through the reorganization of work.

It is now clear that technology is capable of generating enormous amounts of information, but the trick is getting that data to people who can best use it. That turns out to be production, service, supply, and sales people, not managers. The "reengineering" of organizational structures is vital. Decentralizing old corporate hierarchies and empowering employees making and selling products are the first steps to

improving productivity. Providing them with the right of technology is the critical next step.

Thanks to a new generation of user-friendly so-called handheld wireless computers, and PC networks, information can now flow right to the front lines. New systems can connect companies to suppliers and distributors electronically and instantaneously. That's why reengineered corporations actually do more with less—why downsizing works. The total impact is not just to reduce costs but to increase revenues. It's the top line that benefits from rising productivity.

But what about jobs, jobs, jobs? The short-term result of the productivity revolution is pain. Improved technology allows the same number of employees to do much more work, alleviating the pressure to hire.

Yet this technological revolution, like all the others, it is laying the groundwork for a new generation of jobs for those skilled enough to perform them. New industries, multimedia, for one—new markets—such as the one for personal digital assistants—and a slew of new companies will increase demand in the job markets. Companies enjoying productivity-generated profits will invest more, export more, and boost the incomes of their stockholders and employees. If history is a reliable guide, the new productivity gains will lift the living standards of all Americans.

INVEST IN JAPAN. TRADE WILL FOLLOW

De basing one's national currency has a long, sad history. Rome filed the silver off the edges of its coins. Britain devalued its sterling after World War II. Russia is now cheapening the ruble. Despite public denials, it appears that the Clinton Administration is following in this ancient tradition by pushing down the dollar against the yen in an attempt to reduce America's trade deficit with Japan.

We think that policy is wrongheaded—not because we are hard-money, goldbug ideologues. The superdollar of the early 1980s clearly hurt U. S. exports around the world. The Plaza Accord of 1985 returned the dollar to a reasonable level, and since then, the 50% depreciation of the dollar against the German mark and other European currencies has helped turn a \$20 billion trade deficit with Europe into a surplus.

Even the drop in value of the dollar against the yen has shown some benefits. At home, Detroit's Big Three are reconquering domestic market share lost in previous years, not only because their cars are much better in quality but also because they charge about \$2,000 less than Japanese competitors, who must raise prices to compensate for their higher yen. And in Latin America and other Third World markets, U. S. exporters are doing much better, partly because they can price their power generators and construction equipment below the Japanese.

But pushing the dollar to a 40-year low against the yen is not reducing the deficit with Japan—and never will. The dol-

lar has gone from 263 in 1985 to 107 today. The dollar, in contrast, hangs in at \$45 billion to \$50 billion even today. The reason is that Japan's mercantilist economy is not used to sucking in imports, even when they become as cheap as the low dollar has made U. S. goods and services.

The truth is, the U. S. has a trade deficit with Japan, in large part, it has an investment deficit with Japan (page 26). Exports tend to follow foreign investment. The world, and Japan has the smallest amount of foreign investment of any major trading nation. Recent figures published by the House Wednesday Group, a Republican congressional caucus, show that foreign investment in U. S. factories, and other assets come to only \$97 per capita in Japan, compared with about \$1,600 in both the U. S. and Europe. Foreigners control less than 1% of all corporations in Japan, against 20% in the U. S. So when Japan restricts U. S. companies to invest there, it hurts trade.

The lesson? Boosting U. S. investment in Japan will increase exports and reduce the trade deficit. But the current policy of devaluing the dollar works against increasing investment because it dramatically raises the cost of doing business in Japan. Instead of cheapening the dollar, it would be better for the Clinton Administration, which is currently focusing its economic policy toward Japan, to focus on helping U. S. companies break into Japan Inc., which discourages foreign investors—Koreans, Chinese, Europeans, and Americans.

40 years ago
we took America's
breath away.





Sports cars come

and go. Most

flare brightly for a

moment, then fade away like falling stars. But one has endured: igniting vivid memories of Sting Rays, Makos, Split Rear Windows and the look on a kid's face as it drove by.

The original dream car. Corvette.

Our new Commemorative Edition is amply equipped to make a little history of its own. It continues 'V's unrivaled tradition of cutting-edge technology with our most powerful small-block production V8 ever: 300 horsepower LT1. There's also

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BusinessWeek

21, 1993

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MUTUAL FUNDS BLUE CHIPS

WHERE

STOCKS
HIGH, BUT MAY
GO HIGHER

TO

BONDS
LOOK TO MUNIS
AND JUNK

FUNDS
SAVVY PICKS IN A
JITTERY MARKET

GOLD
ENJOY THE RALLY
WHILE IT LASTS

INVEST

REAL ESTATE GLOBAL MARKETS

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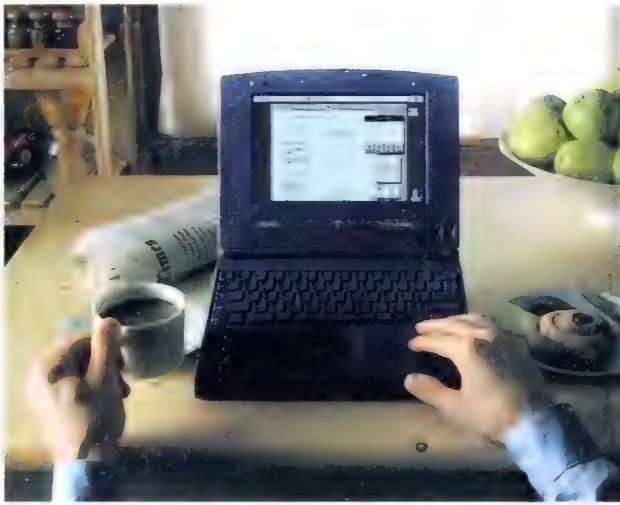
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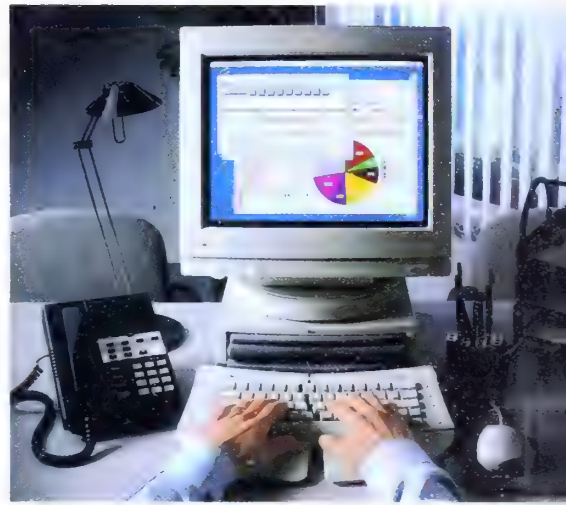
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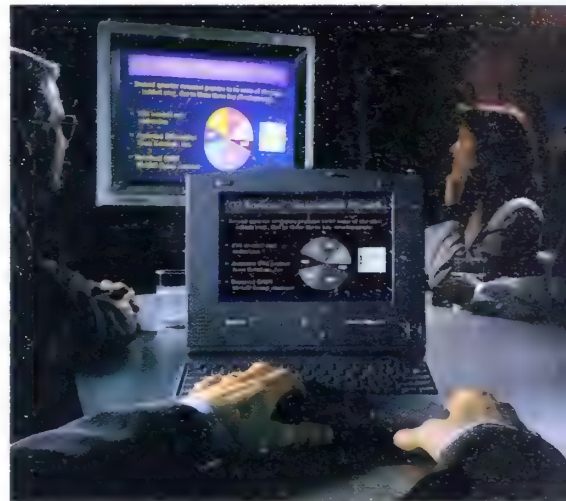
8:00 Home Over breakfast, you check your calendar on your PowerBook Duo. The day looks like it'll be a breeze. You'll put a few finishing touches on the Q2 forecast presentation that's due in a few days, return some calls and have a free afternoon.



9:15 Your Office You slide your PowerBook Duo into the Duo Dock and start suddenly, e-mail chimes. Your boss wants you on the noon shuttle to Boston, to the Q2 forecast to his boss. Also, a client wants to see you ASAP. You hit the eye-



2:50 Borrowed Office A colleague is at lunch, so you borrow his Duo Dock. You log onto e-mail back at the home office and learn your group has just won a new account. You put this news into your presentation (and change a few colors, too).



3:30 Conference Room You clip on the Duo MiniDock and run the presentation on your PowerBook Duo. Everyone's impressed—especially the guy who asks a questions about a six-month-old project. You've got your files, so you've got the a

No other computer could g

For years, you've been trying to keep up with computers. Now there's a computer that can actually keep up with you: the Apple® PowerBook Duo™ System.

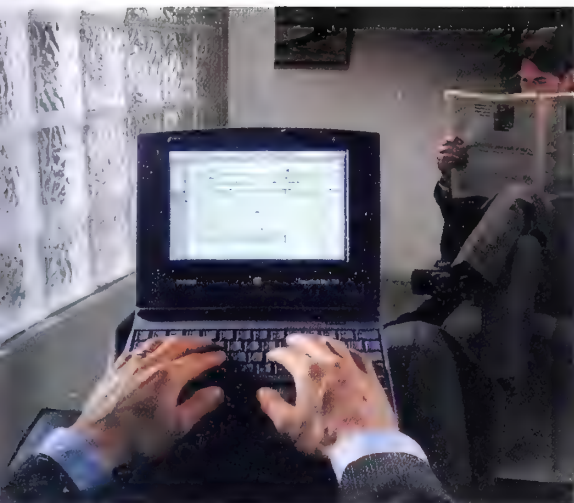
It's nothing less than the most flexible, adaptable and personal computer in the world.

On the road, it's a slim, sleek and powerful notebook computer.

In the office, when plugged into a Duo Dock, it instantly becomes a fully expandable, no-compromise desktop computer that lets you work with a full-keyboard and up to a 16-inch color monitor.

But what really sets the PowerBook Duo System apart from conventional docking systems is a bit of engineering genius called PowerLatch™ technology. A combination of elegant hardware and intelligent software

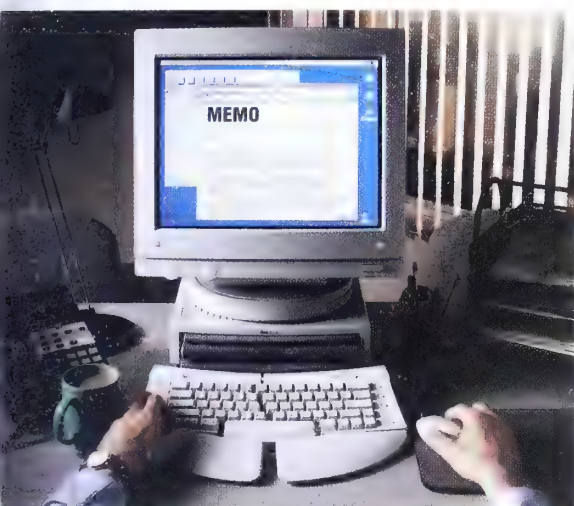
Model	PowerBook Duo 210	PowerBook Duo 230
Weight	4.2 pounds	4.2 pounds
Memory	4MB exp. to 24MB	4MB exp. to 24MB
Storage	80MB	80MB or 120MB
Display	9-inch backlit	9-inch backlit
Battery	Up to 4.5 hours	Up to 4.5 hours
Speed	25 MHz 68030	33 MHz 68030



9:00 Your Client's Office That \$5 million project the client told you was off last week is on again. And due in two weeks. You type up job orders, which you'll fax on your PowerBook when you get to Boston. Now, however, you have to get to the airport.



12:40 Noon Shuttle All the files and software you use at your desktop are with you. You pull up the Q2 presentation and make the revisions to reflect the new assignment. Then you write a memo to your team, to make sure that everything's on schedule.



5:00 Your Office On the way home, you swing by the office to tie up a few loose ends. Your boss. He heard the meeting went well, and wants you to fly out and report to the people in London. Tomorrow. You send out a memo to update your staff.



8:30 Living Room Since you've got all your files and software right there with you, you could study the new research data or finish up those performance reviews. But hey, enough is enough. You settle back in your recliner and play a few rounds of Tetris.

You through a day like this.

As you move in and out of the office with tremendous ease. There are no cables to fiddle with and no complicated "reconfiguring" procedures. Just slip the PowerBook Duo into the Duo Dock, and the system automatically recognizes all your working resources and attached peripherals.

Simply push a button, and a motor gently releases the PowerBook Duo. (It will remind you to save any unsaved files, in case you forget.) Now, wherever you go, your files go with you. You can even add an optional PowerBook Express Modem, to

let you send and receive documents while you're on the road.

To experience the PowerBook Duo System for yourself, call 800-732-3131, extension 100, for the name of the authorized Apple reseller located nearest you. (If you're in Canada, call 800-665-2775, extension 910.) And no matter how dramatically things may change in your life, at least you'll always have the one power you can depend on. The power to be your best.

PowerBook Duo from Apple 

A good day.
The figures worked.
The deal went through.
And now you're in a
very, very good place
to think about
tomorrow.



American Airlines
First and Business Class



Caribbean Mexico Japan

American Airlines
Something special in the air.



INVESTORS CAN WORRY LESS ABOUT THE ECONOMY. GROWTH SHOULD SOON HIT 3%, AND THAT MODEST RATE WILL HELP KEEP INFLATION IN CHECK

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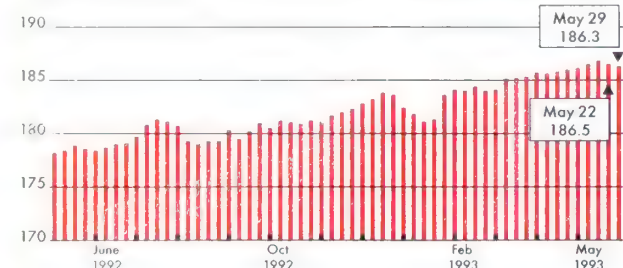
The winding road to a better budget
Don't let the melting pot boil over

BusinessWeek Index

PRODUCTION

Change from last week: -0.1%
Change from last year: 4.3%

1967=100 (four-week moving average)

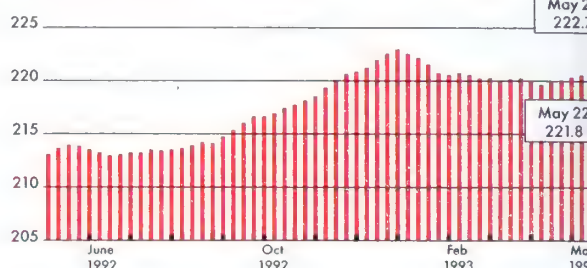


The production index fell during the week ended May 29. On a seasonally adjusted basis, output of electric power and paper declined, while production of steel, autos, trucks, coal, paperboard, and lumber and rail-freight traffic increased. Crude-oil refining was unchanged from the previous week. Before calculation of the four-week moving average, the index rose to 186.4, from 185.2. For the month of May, the index increased to 186.3, from 185.9 in April.

BW production index copyright 1993 by McGraw-Hill Inc.

LEADING

Change from last week: 0.4%
Change from last year: 4.2%



The leading index continued to climb during the week ended May 29. Lower stock prices, fewer business failures, and improved growth rates for materials and real estate loans lifted the index. However, the growth in M2 slowed and yields were unchanged for the week. Before calculation of the four-week moving average, the index rose to 223.6, from 222.5. The index stood at 222.7 for a May, up from April's reading of 220.2.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (6/5) thous. of net tons	1,864	1,902#	4.7
AUTOS (6/5) units	108,667	131,844r#	-20.4
TRUCKS (6/5) units	83,415	97,182r#	-4.9
ELECTRIC POWER (6/5) millions of kilowatt-hours	53,612	54,152#	-1.5
CRUDE-OIL REFINING (6/5) thous. of bbl./day	13,962	13,979#	0.2
COAL (5/29) thous. of net tons	18,771#	18,428	10.7
PAPERBOARD (5/29) thous. of tons	826.6#	803.9r	1.0
PAPER (5/29) thous. of tons	762.0#	769.0r	2.0
LUMBER (5/29) millions of ft.	462.9#	461.4	10.1
RAIL FREIGHT (5/29) billions of ton-miles	21.7#	21.4	1.4

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWPAA, SFPA, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (6/9)	107	107	127
GERMAN MARK (6/9)	1.64	1.59	1.58
BRITISH POUND (6/9)	1.51	1.54	1.85
FRENCH FRANC (6/9)	5.50	5.38	5.31
CANADIAN DOLLAR (6/9)	1.28	1.27	1.19
SWISS FRANC (6/9)	1.47	1.42	1.43
MEXICAN PESO (6/9) ²	3.131	3.123	3.092

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (6/9) \$/troy oz.	371.450	369.000	9.3
STEEL SCRAP (6/8) #1 heavy, \$/ton	111.50	106.50	30.5
FOODSTUFFS (6/8) index, 1967=100	202.3	201.8	-0.8
COPPER (6/5) c/lb.	87.9	87.6	-17.5
ALUMINUM (6/5) c/lb	52.8	52.5	-12.7
WHEAT (6/5) #2 hard, \$/bu.	3.32	3.55	-17.8
COTTON (6/5) strict low middling 1-1/16 in., c/lb.	56.12	56.30	1.3

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment. 1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (6/4) S&P 500	451.34	450.58	
CORPORATE BOND YIELD, Aaa (6/4)	7.38%	7.46%	
INDUSTRIAL MATERIALS PRICES (6/4)	95.5	95.6	
BUSINESS FAILURES (5/28)	360	382	
REAL ESTATE LOANS (5/26) billions	\$396.4	\$395.6r	
MONEY SUPPLY, M2 (5/24) billions	\$3,466.9	\$3,471.4r	
INITIAL CLAIMS, UNEMPLOYMENT (5/22) thous.	339	340	

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Street (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
BUSINESS WEEK PRODUCTION INDEX (May)	186.3	185.9r	
BUSINESS WEEK LEADING INDEX (May)	222.7	220.2r	
EMPLOYMENT, CIVILIAN (May) millions	119.3	118.4	
UNEMPLOYMENT RATE, CIVILIAN (May)	6.9%	7.0%	

Sources: BW, CIBCR, BLS

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (5/24)	\$1,065.1	\$1,068.1r	
BANKS' BUSINESS LOANS (5/26)	275.8	275.1	
FREE RESERVES (5/26)	1,137r	690r	
NONFINANCIAL COMMERCIAL PAPER (5/26)	158.3	159.0	

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago
FEDERAL FUNDS (6/8)	2.72%	3.33%
PRIME (6/9)	6.00	6.00
COMMERCIAL PAPER 3-MONTH (6/8)	3.28	3.23
CERTIFICATES OF DEPOSIT 3-MONTH (6/9)	3.26	3.17
EURODOLLAR 3-MONTH (6/4)	3.21	3.20

Sources: Federal Reserve Board, First Boston

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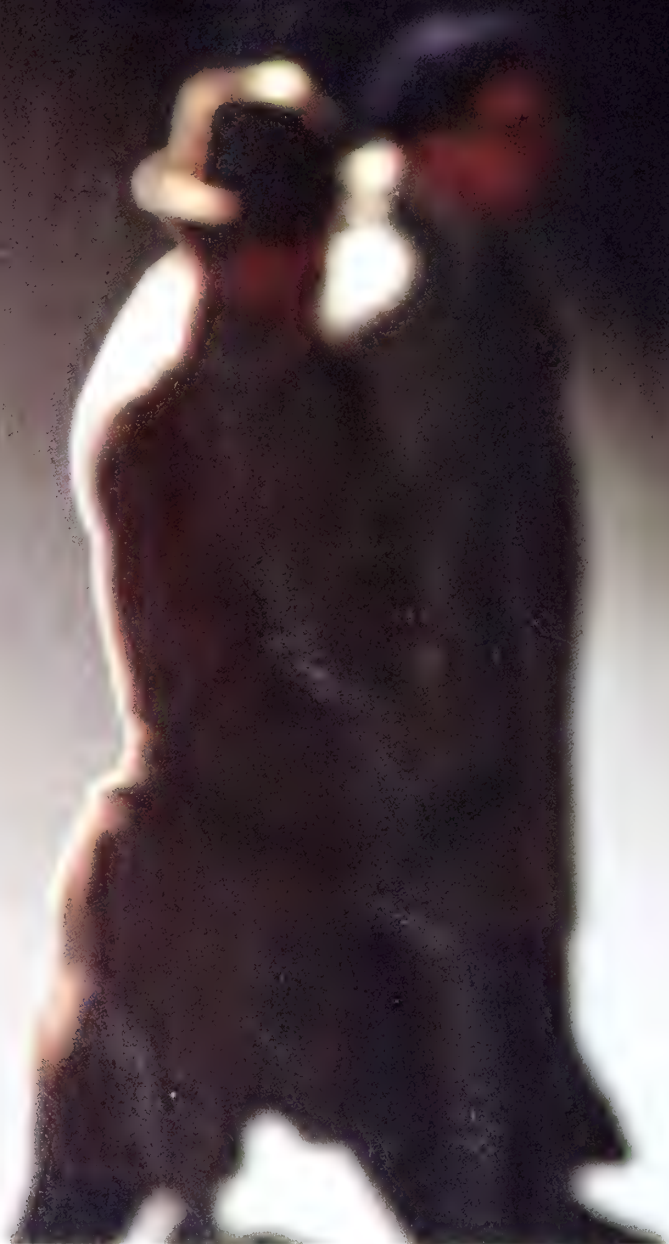
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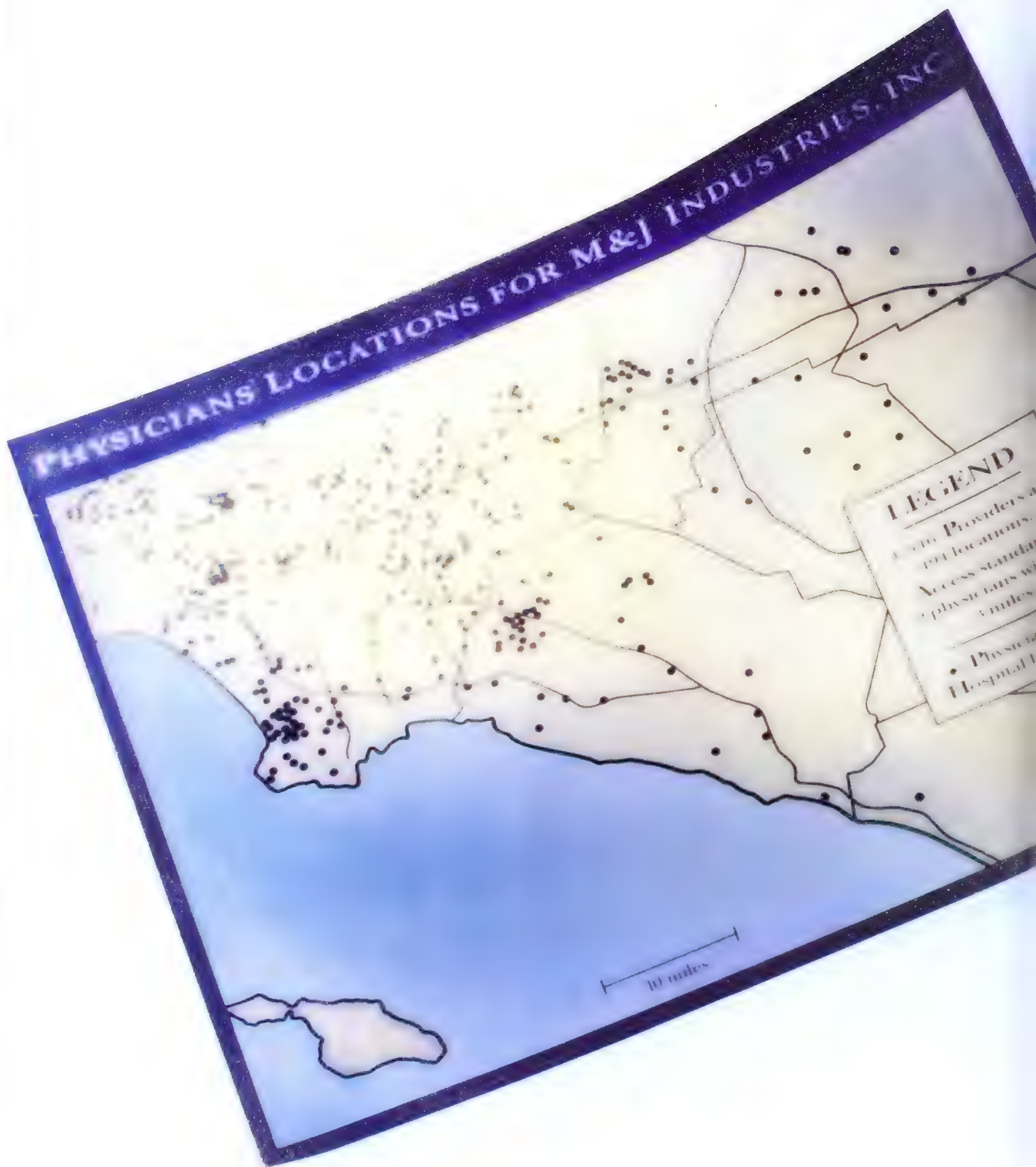


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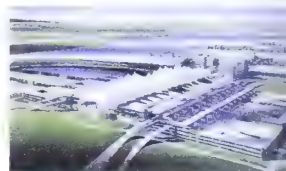
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*When you work in a place that's a mile high,
your ideas are bound to be loftier.*

When your standard of reference is the Rocky Mountains, thinking big is something that comes natural.

One sterling example of this thinking is the new Denver International Airport. Scheduled for completion in 1993, it covers more land area than both O'Hare and Dallas Fort Worth airports combined.

But more significantly, it's the first airport that will allow up to three different streams of aircraft to land at the same time. This, together with the latest navigational aids and low visibility lighting will make for an airport that's virtually weatherproof, resulting in fewer delays.



Perhaps it's only fitting that the minds behind this project come from a place where the workforce ranks as one of the highest educated in the nation. In fact, the number of college graduates here is 6.2% above the national average.

And, according to the Federal Reserve, our state economy is one of the most diverse.

In addition, Denver is where cable television was invented. It is still the country's gold-mining capital. And it's the only place in the U.S. where you can link directly by satellite to five continents, using only one satellite "bounce."

All of which make Denver an unusually forward-thinking place to do business. As evidenced by the fact that more money is currently being spent to build infrastructure in Denver than in any other city. Or the fact that prime downtown office space goes for a competitively low \$13 a square foot. And the median cost of a home is \$95,000.

All in a location that has more sunny days than Miami or Honolulu.

So, if you find yourself having ideas that seem bigger than the city you're in, we suggest you call Dolores Wilson at the Metro Denver Network, 303-620-8029. We think you'll enjoy the conversation. After all, she is quite accustomed to hearing from people like you. *Denver* Take A Closer Look.



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EDITOR'S MEMO

WHEN YOU NEED TO KNOW MORE

Sometimes, even the most comprehensive magazine article can leave you wanting more information. That is why BUSINESS WEEK has taken to producing books on topics of especially strong interest to our readers.

Our annual midyear investment outlook (page 122) touches on one such subject:

mutual funds. We have supplemented our coverage of this fast-growing field with the third edition of BUSINESS WEEK's *Guide to Mutual Funds* (McGraw-Hill, \$14.95 paperback, \$24.95 hardcover). The book, written by Associate Editor Jeffrey M. Laderman, is a complete guide to a number of key topics, such as how mutual funds manage your money, how to select funds, and how to monitor performance. The guide includes the 1993 BUSINESS WEEK Mutual Fund Scoreboard, covering 1,540 equity, bond, and closed-end funds. Quarterly scoreboard updates are available on computer diskette, starting at \$199 a year.

Also in its third edition this year is a volume that can help readers gain



more insight into another complex subject: business schools. *The Best B-Schools* (McGraw-Hill, \$14.95) was produced under the guidance of Senior Writer John A. Byrne and contains several new features. The current edition runs 355 pages, which is 142 pages longer than its predecessors. The additional space enables us to provide expanded descriptions of the best business schools and to profile outstanding faculty members. We have also added new chapters on 15 schools that offer a quality education at relatively low cost as well as on business schools outside the U.S. We identify 20 leading schools in Europe, Asia, and Australia and profile six of the best.

These books are available through bookstores or by calling 800 2-MCGRAW. To order the mutual-fund diskette, call 800-553-3575.

Editor-in-chief

HELPFUL HINTS FOR DO-IT-YOURSELFERS

I read with great pleasure and amusement the story "You can do it!" (Cover Story, May 31) regarding individual investing in the stock market. After seven years of following the advice of my broker, who is with a major brokerage firm, my portfolio had managed to gain a stellar 0.75% (that's right—less than 1%) average annual return.

Well, I gave my broker the heave-ho in June of 1992, opened an account with a discount brokerage, and jumped in feet first with individual stocks. My first purchase was Compaq Computer Corp. at 24 a share, and my former broker informed me this would be the beginning of the end of my individual investing, as her firm predicted a very gloomy future for high-tech stocks.

I sold Compaq for 35 a share (now 57) and since then have bought and sold several stocks, resulting in a 45.5% re-

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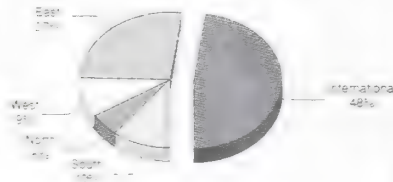
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Readers Report

on investment when I liquidated
h on May 21. My strategy is sim-
invest in companies that are in
ries I have a personal interest in.
e owned no more than three stocks
me, so as to afford larger blocks of
My goal is a net return after com-
ons of at least 35% (so far, so
). I prefer outfits with low debt,
are contrary to the market, and
are ignored or shunned by the pros.
former broker says I have been
libly lucky, and maybe she's right.
think I will take my luck to her
sis any day.

Greg A. Candelaria
Muncie, Ind.

ur advice to readers to minimize
iversification in the stock market is
ous. Although I agree with your
se that individual investors can
perform professional money manag-
n undiversified portfolio is not the
o achieve this.
ersification minimizes a portfolio's
ess without compromising the ex-
d return of the portfolio. Clearly,
ing that decreases risk without de-
ng expected return should be tout-
st shunned.

Kevin Tam
Oakland, Calif.

ur most recent feature article of-
fers a deceptive and one-sided inter-
ection of high-risk investment poli-
hat ignores the basic theories of
e and suppresses the vulnerabil-
a concentrated investment portfo-
is indeed true that some individu-
estors have "beaten" the experts or
market by investing in high-yield
s and bonds.

well-known Capital Asset Pric-
odel tells us that such results may
ected. But the article neglects ev-
e that many who invest in similar
have done far worse than the mar-
eporting successful business prac-
important. Yet your article should
given a greater emphasis to the
lties and pitfalls of undiversified in-
ent policies.

Abraham Seidmann
Xerox Professor
W. E. Simon Graduate School
of Business Administration
University of Rochester
New York

N'S CONSTRUCTION SECTOR IS LED WITH TRADE BARRIERS'

Clinton Administration's decision
give Japan 60 days to open its
uction market or face sanctions
apan, they call it 'Clinton shock,'"

CORRECTIONS & CLARIFICATIONS

A chart entitled "Life Cycle of a Com-
pany" that ran on page 75 in
"BUSINESS WEEK's Guide to Investing
in Hot Growth Companies" (May 24)
should have cited as its source Smith
Barney, Harris Upham & Co.

In "A better way to insure your senior
years?" (Personal Business, June 7),
the premiums of \$1,453 a year for a
40-year-old and \$4,018 for a 65-year-
old pay for long-term-care insurance
for as long as you need it.

International Business, May 3) is aimed
at several problems.

When I first held hearings on the is-
sue in 1986, U.S. participation in the
Japanese design, engineering, and con-
struction market was zero. Last year,
U.S. firms did \$189 million worth of
business in Japan, a 37% decline from
the year before. By contrast, Japanese
firms did \$1.3 billion worth of business
here in 1991.

The lack of business for U.S. firms in
Japan should not be associated with a
lack of competitiveness. On a worldwide
basis where firms compete head to head,
American companies have captured 45%
of the international construction and de-
sign market, and Japanese firms have
only 7%. So why then was U.S. partici-
pation in the Japanese overall construc-
tion market a mere 0.02% in 1992?

Unlike other murky trade issues, this
one is fairly clear. Japan's construction
sector is riddled with trade barriers,
from licensing problems to pervasive
bid-rigging. Collusive, anticompetitive
behavior even has a special name, *dango*,
and it is openly discussed by the Japa-
nese media, in particular association with
political corruption.

What does the U.S. want? First, we
want to end the U.S.-Japan Major Pro-
jects Agreement under which U.S. firms
can only bid on certain public-works pro-
jects. Japanese firms operating here are
not limited to any specific set of public-
works projects, and U.S. firms should
be able to bid on any project in Japan.
Second, we want to end the system that
relegates American firms to junior-part-
ner status in joint ventures.

Finally, it is time for Japan to do
away with the designated-bidder sys-
tem, whereby favored firms are pre-
qualified for bidding on public-works
projects. This system incorporates the
corrupt money politics of Japan. The
Japanese should adopt the competitive-
bid system used by the U.S. and other
developed countries.

The U.S. has shown extraordinary

patience over seven years of fruitless
negotiations. Enough is enough.

Senator Frank Murkowski
(R-Alaska)
Washington

SMALL BUSINESS NEEDS THE SBA

As a Midwest community banker
whose bank specializes in commer-
cial loans, I wish to offer another side of
the SBA as opposed to your article "Time
to turn out the lights at the SBA?" (Fi-
nance, May 31).

Our emphasis is on making commer-
cial loans to businesses. We would be
very restricted in financing startup, new-
technology, and mature companies with-
out SBA assistance. Our focus, like other
SBA user banks, is to help develop small
business, which, in turn, creates jobs
for our local economy.

Without the ability to have a loan
guaranteed by the SBA, much of our fi-
nancing for new businesses would not
occur. We have, with the SBA's aid, fi-
nanced everything from a lumber mill to
new high-tech companies to one that
sells products to the U.S. Navy.

Over the past several months, through
our actively marketing the SBA loan guar-
antee programs, we have seen numerous
loan requests from, and for, businesses
that would not be able to obtain financ-
ing without the SBA's assistance.

J. Michael Straka, President/CEO
Central Illinois Bank
Champaign, Ill.

WILL GERMANY DO IT AGAIN?

In regard to "Germany" (Cover Story,
May 31), who, only one or two years
ago, would have thought it possible that
Germany, Europe's No.1 postwar eco-
nomic superpower, would have to "strug-
gle to regain its competitive edge"?
Some of us had warned that reunifica-
tion might prove difficult even for the
Germans to cope with (and, particularly,
pay for), but the 1989-1990 euphoria
seemed to belie such pessimism. There
is a very good chance that the Germans
will do it again and that another *Wirt-
schaftswunder* will occur. But this reader
hopes Germany will regain its competi-
tive edge because only economic stability
(including lowest possible unemployment)
will secure Germany's political stability.

Karl H. Pagac
London, England

Letters to the Editor should be sent to Readers Report,
Business Week, 1221 Avenue of the Americas, New
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COLD FUSION, HOT AIR

is fashionable to describe science as today's religion, with enlightenment dispensed by white-coated researchers rather than persons of the cloth. The analogy is fundamentally flawed: religion's view of the world is based on faith, whereas science stands or falls on the existence of empirically discoverable truth. When science itself requires a leap of faith, strange things happen.

That's the lesson of science writer Gary Taubes's compelling book on the frustrating, sorry saga of cold fusion. In 1989, two chemists, Martin Fleischmann and B. Stanley Pons, claimed they had produced nuclear fusion in a laboratory jar. The announcements were stunning. If they had harnessed the reaction that powers the sun, the world's energy problems would be solved.

The announcement set off a frenzy in the press and in labs around the world, as scientists tried to replicate the results. But the story in Taubes's hands, as suspenseful as a thriller—thanks to a stunningly accurate and largely missed press at the time.

There had never been real evidence for cold fusion. "Cold fusion... did not exist," Taubes concludes. "There was at least as much empirical evidence, and more, to support the existence of a number of pseudoscientific phenomena from flying saucers to astrology."

Cold fusion, Taubes shows, is a classic of wishful thinking, mixed with libidinal doses of greed and shoddy science, leading researchers to the truth. It all began years ago, when the British physicist Fleischmann, known for both brilliant and far-fetched ideas, wondered if fusion could be induced inside a solid. Normally, hydrogen atoms close enough to fuse takes tremendous pressure and heat, as in the sun. Fleischmann wondered if packing hydrogen between the molecules of a metal might do the same thing. He concocted a method using a deuterium electrode inside a jar of heavy water. He didn't know that physicists'

calculations showed his idea was all but impossible. And in any case, science often makes great leaps when bold researchers attempt what seems undoable.

Fleischmann persuaded Pons, a University of Utah chemist, to do the experiments. It was a low-budget project: In one trial, the jars were placed in a Rubbermaid dishpan. When one jar exploded, Fleischmann and Pons were sure they were on to something. Trouble was, they couldn't measure power coming out of other jars in the lab. Only by making questionable assumptions could they sug-

gest that fusion might be taking place. Rather than meet criticism with new evidence, cold fusion's advocates made fresh claims based on no information or on data that, Taubes documents, were fudged. They refused to divulge methods or measurements, threatened legal action against damning scientific papers, and attacked critics, not on scientific grounds, but for lacking faith.

Take the case of Charles Martin, an electrochemist at Texas A&M University and a friend of Pons. Martin worked ceaselessly to recreate the Utah group's finding and even called a press conference on Apr. 10, 1989, to announce that his experiments were producing power. But Martin soon spotted the experiments' flaws—and Pons's evasiveness in discussions added to his doubts. Martin recalled concluding: "This stuff is not right....as much as I can't believe that my friend Stan Pons is wrong and that my friend Stan Pons lied to me, those things are true." But rather than re-examine his own experiments, Pons dismissed Martin as another lapsed supporter. He told a colleague: "Chuck's gone

wrong. They've gotten to him." Cold fusion's boosters weren't the only ones who acted badly. Some mainstream scientists were overzealous in trying to discredit proponents. The University of Utah erred in pressuring the chemists to go public, handing over hundreds of thousands for research and legal fees, and standing firm despite overwhelming contrary evidence. Even Ira Magazine, now a top Clinton adviser, played a role, lobbying Congress for more funds for the university by warning of a supposed Japanese cold-fusion threat.

Bad Science has additional resonance, because cold fusion lingers on. A small cadre of the faithful—including Pons and Fleischmann—continues to make ever more bizarre claims while refusing to let even sympathetic, reputable scientists examine any of their experiments. Taubes notes wryly: "The nonexistence of a phenomenon is by no means a

Despite the hoopla and frenzy, Taubes reveals, there has never been any real evidence of cold fusion



gest that fusion might be taking place.

The chemists might have labored quietly for years. But they learned that physicist Steven Jones, at nearby Brigham Young University, was doing similar experiments. Worse, he was ready to report seeing tiny quantities of neutrons, possible evidence of fusion. Believing that Jones had confirmed their results (he hadn't) and anxious to nab the Nobel prizes and the billions that would surely result, the Utah chemists, with the university's full backing, went public on Mar. 23, 1989.

At first, they won plaudits in the press and converts among researchers. Both the message and the men were compelling—the gawky but intense Pons, especially. "He may look like a jerk at a distance, but up close he was almost hypnotic," says Joseph L. Taylor, then Utah's academic vice-president.

But within weeks, as scores of scien-



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Books

fatal impediment to continued research.

The book isn't perfect. It gets a few details wrong, such as where the press conference took place during a climactic meeting. And the pace falters in a meandering section on alleged research fraud at Texas A&M. But overall, *Bad Science* is more than a page-turner about cold fusion: It's a cautionary tale of what happens when science gets in the way of real science.

BY JOHN C.

Washington Correspondent Carey
erred cold fusion from the start.

BOOK BRIEFS

AT THE HAND OF MAN: PERIL AND PROSPERITY FOR AFRICA'S WILDLIFE

By Raymond Bonner
Knopf • 286pp • \$24

ENDANGERING SPECIES

If you've ever contributed to wildlife conservation, *At the Hand of Man* is a must read. Written by former *New York Times* reporter Raymond Bonner, this provocative book goes inside the boardrooms of the world's most powerful conservation groups. The picture Bonner paints isn't pretty. Bonner contends that some groups' policies are influenced more by the need for high-profile fundraising campaigns than by the interests of the animals they claim to protect.

Bonner's key example is the decision by such groups as the World Wildlife Fund and the African Wildlife Foundation (AWF) to support a ban on ivory trading. He claims the groups caved to public pressure, in part because they proved a successful fund-raising tool in 1988, when the AWF launched its Year of the Elephant campaign to stop elephant "slaughter," for instance, money flowing in. But Bonner maintains the ban is not necessarily the best choice for Africa or its elephants. Indeed, some countries have found culling herds an effective way to protect elephant populations because it stops rampant poaching.

Through this example, Bonner takes to the heart of one of the toughest conservation dilemmas—how best to protect wildlife. He argues that it is sometimes good to allow hunting and commercial use, so that local people are motivated to protect animals.

This argument runs counter to the views of some Western conservation groups. And that, Bonner says, is the challenge they face. If such organizations want to protect African wildlife, they must let Africans manage their own resources. That means donors must understand that some elephants have to die if the species is to be saved.

BY MARY BETH RE

INTERNATIONAL EXPERTS

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INFLATION: DON'T PUSH THE PANIC BUTTON

BY RUDI DORNBUSCH



Despite a recent jump in prices, the Fed must keep it cool: Higher interest rates now would wreck the economy. Besides, Clinton's plan to trim the deficit will do more than tight money to keep inflation at bay

The walloping inflation in April—5% at an annual rate—caught everybody by surprise and renewed inflation fears when it was released on May 13. A falling dollar and soaring gold prices have helped round out the all-too-familiar picture of the late stage of a recovery with imminent tightening by the Fed. Will the other shoe drop when the May inflation number comes out? A low rate, as in March, will support the view that the economy is far too weak to generate increasing inflation. A high number will take a toll on the bond and stock markets, even before the Fed makes any move.

Caught between inflation jitters and White House leadership slippage, the U.S. economy has come to a crossroads. Things could go badly wrong. If the inflation hawks at the Fed carry the vote, interest-rate hikes will stop the recovery, and unemployment will be pushed up: Any thought of budget-cutting will have to be put off until further notice. Even without further bad inflation news, lack of leadership means the budget cuts won't come, and severe financial instability could be on the horizon.

Fortunately, the inflation scare is unfounded, the Fed hawks are in the minority, and the President is moving to the center to counter his low approval rating. A conservative President and a liberal Fed would be just the right mix to get sensible budget cuts, low interest rates, no inflation risk, and steady growth.

SAFETY ZONE. Over the past decade, inflation has averaged 3.8%—and in the past 12 months, the rate has been only 3.2%. Even so, burned by the experience of the 1970s, Americans have inflation fears in their bones. But a sober assessment of the sources of inflation supports the view that we are nowhere near the danger zone: In a world economy with considerable slack, commodity prices will rise only moderately. Oil prices, in particular, have no realistic upside potential. The labor market is soft because the U.S. recovery has been virtually jobless. And where wages have risen, productivity increases have been even higher. Capacity utilization has increased along with output, but capacity slack remains substantial. Although inflation normally accelerates in the second year of recovery, this recovery has been moving at half speed. That strongly suggests that we have some time yet before inflation becomes a problem.

Without far more convincing and persistent signs of inflation, the Fed would commit a grave error if it raised rates and pushed the economy back to the edge of recession. At this stage of the recovery, higher rates would be certain to snuff out growth, and there is no

doubt that it would be doubly difficult to launch another recovery. We are barely out of the last recession, and nobody—politicians, workers, or businessmen—has the stomach for another setback to the economy.

Moreover, the President's proposed cutting the budget deficit provide a far better way to check any overheating than would be gained from a premature end to growth as a result of tight money and high real interest rates. In fact, budget cuts are a panacea for many of our woes: Short-term interest rates can come down, and long-term rates will come down. Financial fragility will lessen, and investment will rise. If the Fed overreacts now, we're going to reach that promised land.

SAVING FACE. The benign scenario of tight budget cuts to prevent a resurgence of inflation places a responsibility on the Administration and on Congress. Only a decisive, early budget program can give the assurance to capital markets and the Federal Reserve that they can stay the course, hold down rates, and let recovery go forward. The President's recent shifts toward the center—the appointment of David Gergen to be a top adviser, the change in style as well as the substance of policy, the budget compromises that shift the mix toward spending cuts and away from tax cuts, and the postponement of minimum-wage hikes—all suggest that Clinton recognizes that without the budget cuts, his Presidency will unravel.

Congress, too, has a lot at stake. A moderate off-the-road budget package is the best anyone can expect. Republicans want more spending cuts, but the Democrats don't. Democrats would like to see more taxation, but Republicans would not. The budget compromise now emerging promises to permit everybody to save face and get the job done. Surely we can't spend another decade in stagnation, with low investment and declining economic and social performance.

The Fed has its work cut out for it as well: It must create the right macroeconomic environment for budget cuts. Adventure on the Fed who indulge in inflation phobia may think this is an auspicious time to revive recession. Chairman Alan Greenspan wisely keeps quiet, since he bears the responsibility for making things work out. For a decade, the Fed has argued that budget cuts are inevitable—and when they come, the Fed will be there to soften the fall with appropriate easy money. Greenspan can be relied on to hold up his part of the deal. He is right not to be rushed into monetary ease by budget cuts that haven't happened yet, and not to tighten on the mere suspicion of inflation.

RUDI DORNBUSCH IS PROFESSOR OF ECONOMICS AT MASSACHUSETTS INSTITUTE OF TECHNOLOGY



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In short, it's taking the long view by making sure every conceivable aspect of a disability plan is taken care of. Why go so far? Remember that one-in-four statistic we mentioned earlier? Well, it happens to people who work in insurance companies, too.

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Economic Trends

BY GENE KORETZ

TINY EMPLOYERS WEIGH SOME BIG HIRING PLANS

When Dun & Bradstreet Corp. reported a year ago that its annual survey of 5,000 U.S. businesses indicated the nation would add 1.9 million jobs in 1992, the number seemed wildly optimistic. As it happens, payroll job growth late in the year proved unexpectedly robust, with the Labor Dept.'s monthly canvass of households showing job gains of 1.6 million. "We were closer to the mark than many experts expected," says D&B economist Joseph W. Duncan.

D&B's recently released 1993 survey is even more bullish—projecting a net increase of some 2.1 million jobs. Since employment growth so far in 1993 is running above that pace, Duncan thinks "job gains this year could well exceed our projections by a healthy margin."

The survey's most striking result concerns businesses with fewer than 20 workers. Such tiny outfits account for 57% of this year's expected job growth,

lar pattern. Economist David Birch of Cognetics Inc., an economics research firm, reports that jobs in companies with more than 5,000 employees shrank by 2.4 million during this period, while employment soared by 4.4 million in outfits with fewer than 20 workers, and by another 1.4 million in businesses with 20 to 99 workers.

The Cognetics study also indicates that smaller companies with fewer than 100 workers added more relatively high-wage jobs (those within the upper third of the wage spectrum) than low-wage jobs (those within the lower third).

Such findings, says Birch, "believe the notion that small companies create only low-paying jobs and that we are becoming a nation of hamburger flippers."

EUROPE'S WORK FORCE ISN'T MOVING WITH THE MONEY

Economists at Oxford Economic Forecasting Ltd. have resurrected the term "Eurosclerosis" to characterize Europe's current economic woes. They argue that even a sharp drop in interest rates in Germany and other members of the exchange-rate mechanism (ERM) is unlikely to reduce the high unemployment now endemic on the Continent.

The reason is not simply excessive European factory wages, which in dollar terms now often exceed pay scales in both the U.S. and Japan. Exacerbating the wage cost problem is labor inflexibility, as exemplified by the lack of worker mobility. Whereas both U.S. and Japanese workers tend to move to areas where jobs are available, Europeans are far more likely to stay put, even within their own national boundaries.

In 1987, for example, 2.8% of the U.S. population and 2.6% of Japanese moved to other regions within their nations, according to the consulting firm. By contrast, the percentage moving within Italy, Germany, England, and France ranged from 0.5% to 1.3%. While cultural factors play a part in inhibiting mobility, so does the high cost of acquiring a new residence. Oxford analysts calculate that the total cost of buying and selling a house, including taxes, legal fees, and brokerage commissions, averages about 13.5% of the selling price in Western Europe, compared with 9% in the U.S. and only 5% in Japan.

Unfortunately, while European labor is still relatively inflexible, European business is not. At a time of increasing capital mobility, says the consulting firm, impediments to labor mobility can only worsen the problem of unemployment.

PLUCKING THE RICH MAY CLIP THE WINGS OF SMALL ENTREPRENEURS

President Clinton's proposed tax on high-income individuals won't enhance the job-creating role of small business, warns economist David D. of Kemper Securities Inc. He notes 20% to 25% of high-income taxpayer earnings come from small business.

Taxpayers with incomes of more than \$200,000 in 1990, for example, garnered \$69.3 billion in income from small businesses organized under Subchapter S of the tax code and an additional \$25.5 billion in professional and unincorporated business income listed in Schedule C of income tax forms. Such business income far exceeds the same group's record of \$25.5 billion and \$39.3 billion in form of dividends and taxable interest.

"Despite populist myths," says D., "high-income Americans are not the coupon clippers." Many are active entrepreneurs whose wings will be clipped by what may be the biggest marginal come tax rate hike since the early

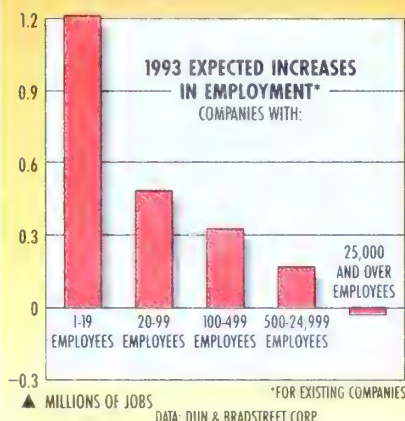
BUSINESS IS GETTING MORE BANG FOR THE DEPRECIATION BUCK

Back in the early 1980s, U.S. businesses reaped a cash-flow bonanza after the 1981 tax act introduced accelerated depreciation. The new schedule allowed companies to depreciate capital equipment faster than the useful lives of such machinery, and the resulting cash surge touched off an investment boom when the economy turned up after the 1981-82 recession. But the game stopped when the 1986 tax act eliminated accelerated depreciation.

Now, however, a similar trend is emerging. The Commerce Dept. reports that depreciation allowances in the quarter exceeded the cost of replacement actual wear and tear of equipment some \$50 billion at an annual rate, reason, explains economist Bruce S. berg of Merrill Lynch & Co., is that equipment currently in use costs more than new equipment now available, as the prices of computers and other technology have plunged by nearly 10% over the past year.

In sum, companies are finding they can use their depreciation allowance to buy more equipment than before, that's a big reason why capital spending continues to lead the economy.

JOB GAINS THIS YEAR: A SMALL-BUSINESS AFFAIR



with another 23% projected by companies with 20 to 99 employees (chart).

Meanwhile, the wave of downsizing in the nation's largest companies is continuing. Only 12% of companies with 25,000 or more employees expect to add jobs, while 36% anticipate layoffs. Although the net loss expected by these giants is small, Duncan notes that in recent years they have tended to shed far more workers than projected.

A new study of job gains from 1987 through the end of 1991—a period spanning the last business cycle peak, the recession, and the first three quarters of the current recovery—highlights a simi-

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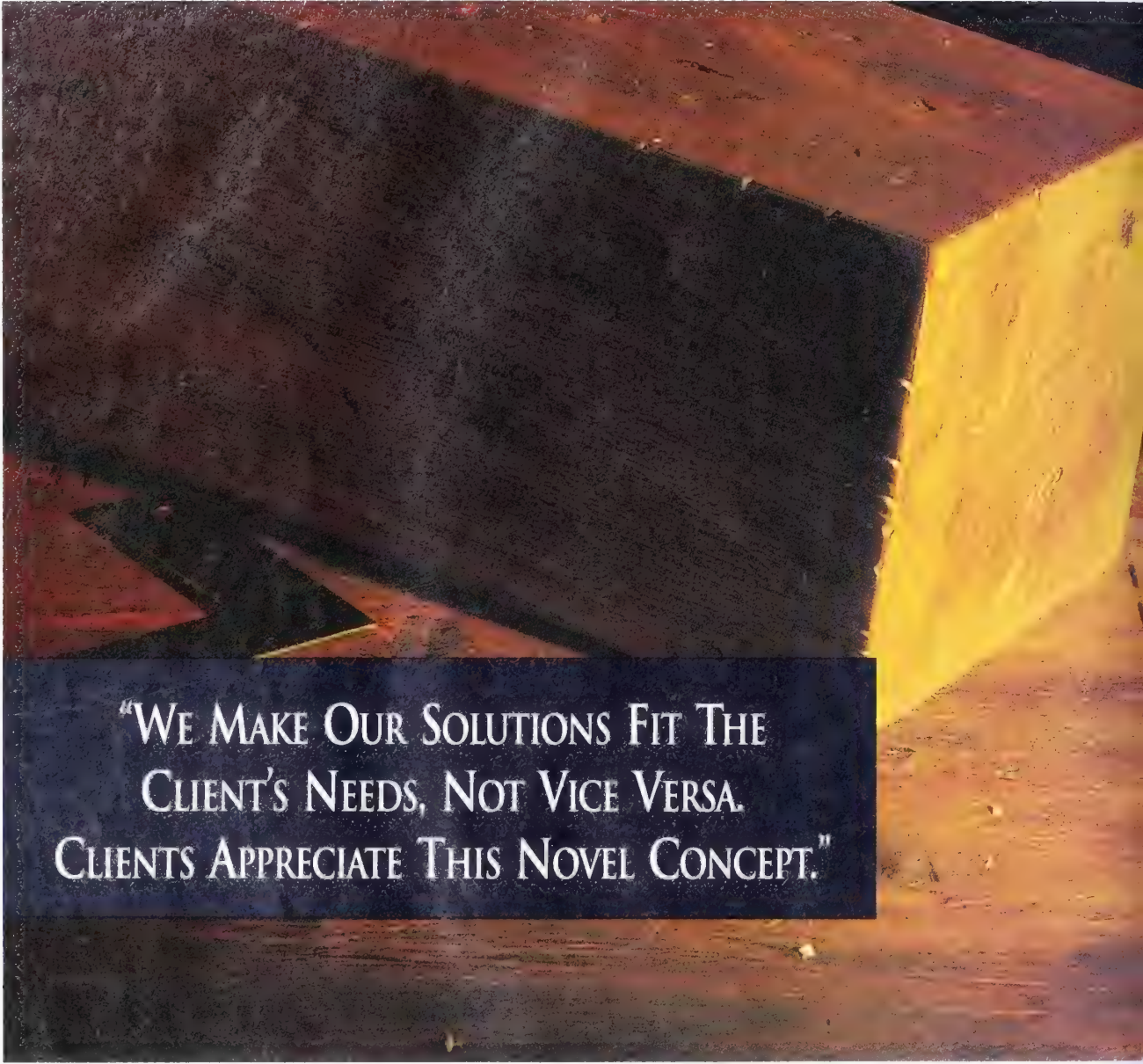
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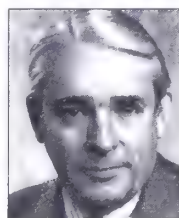
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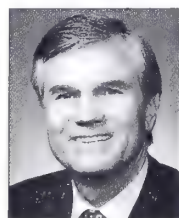
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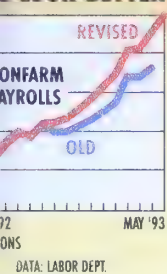
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ADDENLY, THE JOB ENGINE PURRING

you still think the economy is jobless and recession-prone, it's time to wake up and smell the data. The invigorating aroma of the May employment report ought to be enough to change your mind.

U.S. businesses added 209,000 workers to their payrolls in May, following a 216,000 increase in April. The economy posted back-to-back job gains of that size in more than three years. The unemployment rate dipped from 7% in April to 6.9% in May, the lowest in a year and half. The workweek jumped from 34.4 hours to 34.8 hours, the longest in four years.

SECOND LOOK, FIRST LOOK BETTER



Still skeptical? Consider this: The Labor Dept.'s annual revisions show that the economy generated 336,000 more jobs from April, 1992, to February, 1993, than previously reported (chart). In the aggregate, payroll employment has now recovered all of its recession losses.

The job data force a sea change of attitudes about prospects for economic growth

in the second quarter—and beyond. After a dismal 0.9% increase in first-quarter real gross domestic product, the gains in employment and the workweek are consistent with real GDP growth of at least 3%.

In fact, so far in 1993, job gains are averaging 182,000 a month, up substantially from 104,000 a month during the first half of 1992. Although job growth remains below the pace of a typical expansion, it is strong enough to suggest that the economy is able to sustain a 3% growth trend through yearend (page 124).

THINGS ARE UP, SO IS HOPE

That's mainly because the job numbers are especially encouraging for consumer spending—some two-thirds of GDP. More jobs and hours mean that household incomes are growing much faster than previously thought. That explains why consumers have been increasingly willing to take on more credit debt in recent months.

And in the drop in long-term interest rates last winter, which will continue to bolster the economy in the coming year, and it is easy to be upbeat about prospects for growth in homes, cars, and big-ticket consumer items generally. Already, April home buying surged by 22.7% to the highest level in seven years, and sales of automobiles and light trucks cruised into May at an annual rate of 12.1

million, the strongest pace in more than three years.

The most compelling sign that the economy is a lot sturdier than the weather-beaten first-quarter data had suggested comes from the second-quarter surge in aggregate hours worked. That's the combined measure of jobs and the workweek, which is a good—but not perfect—indicator of real GDP growth. Through May, overall work time was rising at an annual rate of 4.6% from the first-quarter level (chart). If sustained, that would be the largest quarterly increase in nine years.

The biggest job gainers in May were construction and services. Builders took on 67,000 new hires in May, the most in any month in nearly 3½ years. More jobs seem likely this summer as home construction warms up with the weather.

Within the service-producing sector, the services industry added on 126,000 new workers in May. So far this year, services have contributed 60% of the growth in nonfarm employment, although they are only one-quarter of the total. The bulk of the new slots have come from business, health, and personal services. Some argue that these are low-wage, dead-end jobs, but in May the average hourly wage in services stood at \$10.81, not much below \$11.72 in manufacturing.

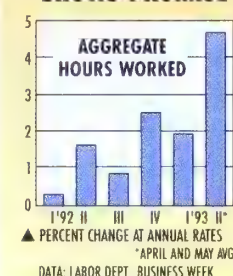
FACTORIES MAY START HIRING BY SUMMER

The only downer in the May employment report was continued evidence that manufacturers are still loath to expand their payrolls. Indeed, factories shed 39,000 workers last month on top of the 75,000 they let go in April and the 19,000 released in March. Manufacturers are the victims of two long-term trends: defense cuts and rising import penetration.

And in the short run, a mini-inventory correction is also depressing orders and output. The ratio of factory inventories to shipments jumped to 1.49 in April from 1.46 in March, mainly reflecting a 1.5% drop in shipments. Factory demand softened at the beginning of the second quarter, because many retail goods went unsold during the winter storms in March.

However, the outlook for both manufacturing output and employment this summer looks brighter. Despite the recent job losses, the manufacturing workweek in May remained at 41.5 hours—a 26-year high. Factory overtime

SPRINGTIME GROWTH SHOWS PROMISE



Business Outlook

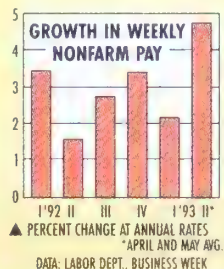
held at 4.2 hours—a postwar record. With consumer demand bouncing back at a time when existing employees already are working full tilt, manufacturers may have no choice but to add to their payrolls.

That's especially true in the auto industry. Carmakers have accounted for one-quarter of the 133,000 manufacturing jobs lost since February. But with sales humming and Detroit heading into the third quarter with an ambitious production schedule, many of those laid-off workers are likely to be called back.

HOUSEHOLD FINANCES LOOK BETTER

In addition to the refreshing redolence of more jobs, consumers are also inhaling the sweet smell of extra cash. The recent upturn in hourly and weekly pay is giving households the wherewithal to keep spending (chart). In addition, better income growth, along with the flood of mortgage refinancings over the past 1½ years, has improved the financial footing of many consumers.

MORE MONEY IN WORKERS' WALLETS



The average hourly wage in the nonfarm sector increased by 0.6% in May, to \$10.83. Since hitting bottom in mid-1992, wage growth is definitely on an upward trajectory. Hourly pay has risen by 2.8% over the past 12 months, compared with a 2.3% advance in the preceding year.

But while the pickup in pay is putting more money in consumers' pockets, it shouldn't

touch off any inflation alarms. That's because gains in productivity are offsetting some of the increase in wages. As long as unit labor costs remain low—and businesses' drive to increase efficiency makes that seem likely—then a slight pickup in wage growth will result in little, if any, cost-push pressure on inflation.

The increase in hourly pay, coupled with the longer

workweek, caused a huge 1.7% jump in the average weekly paycheck. Weekly earnings are rising at an annual rate of 4.7% so far in the second quarter—the fastest quarterly pace in two years. Stronger income growth is a big reason why real consumer spending is on track to grow at a healthy clip of about 3% this quarter, following its disappointing 1.2% pace in the first period.

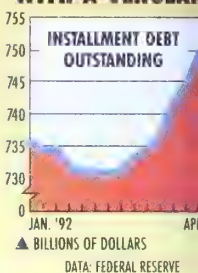
The better income picture also explains why consumers are once again pulling out their plastic and saying "charge it." After being taboo for two years, borrowing is in vogue again. Consumer installment debt grew by a large \$2.3 billion in April, after an even stronger \$3 billion gain in March. Revolving debt, which includes credit cards, is leading the new borrowing binge.

Installment debt had dipped to a two-year low last August as economic uncertainties, mainly job worries, caused consumers to put away their credit cards and postpone purchases of big-ticket items. Since then, though, credit outstanding has ballooned by some \$23.5 billion, to \$754 billion (chart).

Will all this new debt sour the outlook? No. The increase in borrowing has been more than matched by income growth. Installment debt as a percent of disposable income stayed at 16.3% to 16.5% for a year now. That's down sharply from the ratio's peak of 18.8% in 1989, and suggests that heavy debt is less of a squeeze on household budgets.

With the upturn into its third year, consumers and businesses clearly need some energized data to shake away the perception that this economy is flagging. The latest readings from the labor markets should provide the necessary jolt. In the world of economic brews, the latest employment report was anything but decaf.

CREDIT COMES BACK WITH A VENGEANCE



THE WEEK AHEAD

BUSINESS INVENTORIES

Monday, June 14, 10 a.m.

Inventories held by manufacturers, retailers, and wholesalers probably rose by 0.2% in April, after a 0.8% jump in March, according to the median forecast of economists polled by McGraw-Hill Inc.'s MMS International. However, the April surge in retail sales suggests that store inventories may have been cleared out a bit in April. If so, total business inventories may have been unchanged for the month.

CONSUMER PRICE INDEX

Tuesday, June 15, 8:30 a.m.

The MMS forecast is that the consumer price index in May increased by 0.2%

for all items and when food and energy are excluded. That would follow troubling 0.4% jumps in each of the price indexes in April. The modest advance projected for May suggests a reprieve from any monetary tightening by the inflation-wary Federal Reserve. Another jump in the CPI of 0.4%, however, would make a Fed move all but inevitable.

HOUSING STARTS

Wednesday, June 16, 8:30 a.m.

Housing starts probably rose to an annual rate of 1.26 million in May, from 1.21 million in April. A strong 22.7% advance in new-home sales in April, plus better weather, likely boosted homebuilding last month. Housing should continue on an uptrend this summer.

INDUSTRIAL PRODUCTION

Wednesday, June 16, 9:15 a.m.

Industrial output likely edged up by 0.1% in May, the same weak gain in April. Operating rates for all industries May probably remained at April's 80.1%.

MERCHANDISE TRADE DEFICIT

Thursday, June 17, 8:30 a.m.

The foreign trade deficit probably narrowed to \$8.7 billion in April, forcing the MMS economists. That would be an improvement from March's disastrous widening of the deficit to \$10.2 billion from February's \$7.9 billion. Exports, which increased 5.7% in March, probably rose again in April, while imports, which jumped 9.8% in March, were flat.

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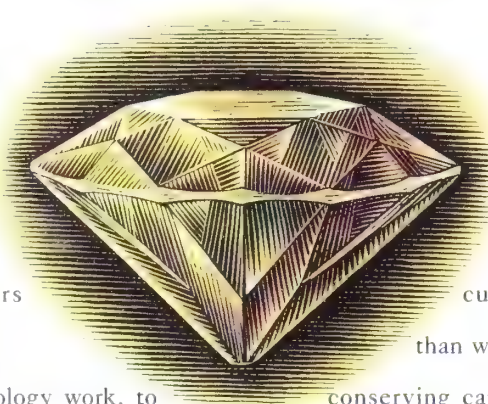
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THE PRICE OF OPEN ARMS

ALIENS ARE STRAINING BUDGETS AND TOLERANCE

On June 6, in the dead of night, a tramp steamer ran aground off a New York City beach with nearly 300 illegal Chinese immigrants on board. The week before, a freighter slipped into San Francisco and disgorged 250 Chinese aliens at an unused pier near the Golden Gate Bridge. Last winter, as the dust settled around the bomb-scarred World Trade Center in New York, one fact was clear: Uncountable Middle Easterners enter the U.S. illegally—then disappear.

More than 1 million immigrants from all over the world are settling in America every year—and some 200,000 of them are coming in with neither an invitation nor approval to stay. That's partly because the U.S., unlike other industrialized countries, seeks to keep an open door for those looking for better opportunities or trying to escape brutalities. The U.S. economy, after all, was largely built by immigrants. Across the U.S., countless hotels, garment factories, and restaurants still depend on their labor—both skilled and unskilled.

"EMERGENCY." But is America's dedication to the ideals of the Statue of Liberty and the portals of Ellis Island outdated? The nation now faces the largest immigrant wave in its history. And across the country, economists, politicians, and some just plain folks are worried that the American economy and its culture are on the verge of being swamped. A major factor behind their fears: Immigrants, legal and not, are posing huge costs on the system, even

while local governments struggle to cope with high unemployment and strained budgets. "I definitely don't believe the last one in should pull up the gangplank," says Douglas J. Besharov, a resident scholar at the American Enterprise Institute for Public Policy Research and the son of immigrants. "But that doesn't mean we shouldn't have an orderly policy for deciding who comes and who doesn't."

Those who risk life and limb and a lifetime's savings to come to the U.S. aren't much interested in policy. Take "Mei Yok," a 32-year-old Malaysian woman who has worked illegally in Manhattan's garment trade for more than two years. Employers have taken her wages, then threatened her with violence or deportation, she says. But the payoff is sweet. "If you take one dollar back to Malaysia, it is double the value," she says. "You work here to earn U.S. dollars so you can greatly improve your living standard in Malaysia. I can buy a house in Malaysia even though I can't buy one here."

Economic opportunity has long been an inducement for immigration to the U.S. What has stepped up the flow is shifting politics: As capitalism spreads to less developed countries and former communist nations, it is shaking people loose from their traditional roots and allowing them to leave in order to seek better opportunities abroad. That has produced a new surge of illegal immigrants from China and Russia. "People will give up all their worldly possessions to get here," says



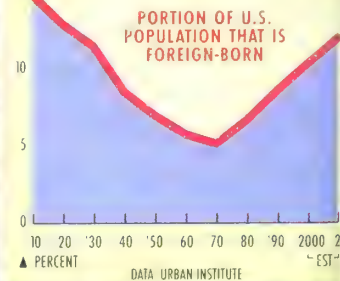
FAKE GREEN CARDS: A WAVE OF ILLEGALS

ALMOST 40% OF U.S. POPULATION GROWTH OVER THE NEXT DECADE WILL COME FROM IMMIGRANTS

DATA: BUSINESS WEEK



MORE IMMIGRANTS...



Seattle immigration lawyer Dan P. Ilov. "My clients tell me, 'I would rather live in an American jail than go back to the rice fields of China.'"

These new migrants are also drawn by the well-founded hope of achieving legal refugee status in America. Since 1980, the U.S. has welcomed more than 1.2 million refugees, mainly from communist countries. The same legacy of the cold war now gives special prominence, first to Cubans and Vietnam



...MANY OF THEM ILLEGAL...

ESTIMATED BREAKDOWN ON IMMIGRATION TO THE U.S. IN 1992

Legal immigrants	200,000*
Relatives of U.S. citizens; spouses	
Children of permanent residents	520,000
Immigrants from countries with relatively	
High immigration lately	40,000
Seasonal workers and their families	140,000
Political refugees	141,000
TOTAL	1,041,000

DATA: IMMIGRATION & NATURALIZATION SERVICE, BUSINESS WEEK

...ARE CHANGING THE FACE OF AMERICA

PATTERNS OF PROJECTED U.S. POPULATION GROWTH, 1992-2010

	HISPANIC	WHITE	ASIAN	BLACK
Population growth in millions	15.2	11.1	8.5	7.6
Percent coming from immigration	38.4%	28.3%	68.0%	13.9%
Percent of total U.S. population growth*	35.1%	25.7%	19.8%	17.7%

*OMITS AMERICAN INDIANS

DATA: CENSUS BUREAU

low to Russians and Chinese. "We have a migration emergency," says one immigration official. "We're being inundated with more refugees and those might not be."

AYER BURDEN. The price of the emergency? In Los Angeles County, the extra cost of providing health, welfare and other noneducation services to illegal immigrant is about \$440 a year—about 40% more than the cost for the rest of the population.

Then there's schooling. Education represents the best way to integrate immigrants and their children into American society. But the flood of newcomers is putting enormous stresses on already taxed school systems. Public schools in Dade County were overwhelmed in the last school year by some 75,000 non-English-speaking immigrant children, many illegal. That meant an \$80 million bill for special programs in Spanish and Creole. "We can't turn away kids because of

their parent's problems, so we take many that are illegally here," said Henry Fraind, chief spokesperson at the Dade County Public School System. "And the American taxpayer pays."

The taxpayer is also bearing the burden of other costs. The percentage of immigrants on welfare in California rose from about 8.6% in 1980 to 10.4% in 1990, according to George Borjas, an economist at the University of California at San Diego. And at least 25% of the jail

Top of the News

population in Southern California, and perhaps much more, consists of illegal aliens, according to Kenneth J. Elwood, an assistant director of the INS in Los Angeles.

"SCUT WORK." In response, California recently passed a law that cuts Medi-Cal payments to hospitals giving many kinds of nonemergency care to illegals. That's supposed to save the state and the feds \$90 million. But local governments complain that they'll have to pick up the tab, and it could actually cost more money as illegals try to get nonemergency care by going to emergency rooms. The law is unfair, says Dr. Larry A. Bedard, who sits on the hospital board in affluent Marin, where taxpayer groups have organized to stem



OVER THE WALL IN TUCUMAN
ANTI-IMMIGRANT
SENTIMENT IS HIGH
IN CALIFORNIA

government spending on illegals. "We want them to clean our houses, rake our leaves, take care of our children, do the scut work of life," Bedard says of the illegals. "But if they get sick, we don't

already has permission from the INS to bring in two foreign housekeepers a year—but he says he could use an additional eight such workers.

It's also true that illegal aliens ac-

want to take care of them."

Indeed, most immigrants, legal and illegal, are highly productive workers. That's why they came to the U.S. and why they're in demand in some parts of the country. "I'm praying some of them would wash up on the shores of Gore County, which runs through Vail, Colo., says Jim Osterfoss, owner of Roost Lodge in Vail, talking about the Chinese boat people he's tried to land in New York. Facing a shortage of housekeepers

TRYING TO STANCH THE FLOW FROM FUJIAN

Since the 17th century, residents of southern China's Fujian province have sought their fortunes outside the country. Indeed, most ethnic Chinese in Taiwan and Southeast Asia are descendants of migrants from Fujian. Now, the Fujianese are carrying the tradition much farther. Most of the Chinese who on June 6 emerged from the chilly Atlantic in Queens, N. Y., come from this province of 30 million. To the dismay of U.S. officials, as many as 100,000 Chinese migrants—most from Fujian—have also been smuggled into California, Hawaii, Florida, and other states in the past year.

More will be coming. China's economic boom, though fostering double-digit growth, is causing huge social dislocations. For one thing, thriving cities are drawing tens of millions from the countryside. Once uprooted, many peasants who aren't absorbed into city life are prey for smugglers who tell them of the riches awaiting them overseas. For others, rising incomes make the steep passage affordable. And exposure to foreigners has made millions aware of the good life outside China.

FLOATING MIGRANTS. Political changes also contribute to the exodus. Decentralization has made local governments more powerful, weakening Beijing's once iron grip. As a result, it's harder for the central government to stop people from taking to the seas. "There will be more peo-

ple leaving in the future," says Kenneth G. Lieberthal, a China expert at the University of Michigan. "This will make the Vietnam boat-people problem look like a Sunday picnic."

Those who risk their lives by boarding the rusted ships fit no single description. Most are struggling peasants who haven't shared in the boom times. They move to the cities along the coast, where they become part of a rootless population—estimated at 80 million—known as *mang liu*, or floating migrants. Some are educated city dwellers. Intellectuals, army officers, and former Communist Party officials have been among the 21,000 mainlanders held at detention centers in Taiwan since 1990, according to a confidential study by Taiwan's Mainland Affairs Council.

The decision to get out is often a collective one. Families in Fujian pool their money and scrape together the \$3,000 or so downpayment needed to make the voyage, with the remaining \$25,000 to be paid upon arrival. Their hope is that the one person selected for the trip will eventually bring over others. Then they contact recruiters, or "snake heads," who

have links to crime syndicates in Hong Kong, Southeast Asia, and the U.S. Besides providing fake IDs, the syndicates give lessons on language and customs of the destination. Those going to Taiwan, for example, are told bus prices, given maps—taught local slang. Fake documents, often made in Fujian's Changfeng, which many Western embassies is the home of visa and passport for the whole country.

No one has yet pinned down Chinese crime syndicates are involved in the smuggling of humans. But many experts believe the links criminal groups around the world. According to a scholar close to the Taiwanese government, gangs from Fujian run the rogue fishing vessels, the "ghost ships," which sail under

nian or Honduran flags. Some of the ships were used for fishing, and others have been reported to carry human cargo. Hong Kong officials act as middlemen, disrupting Chinese aid in the drug and counterfeit markets. Thailand supplies rudimentary documents. The gangs, s-

IN CALIFORNIA,
MORE THAN 10%
OF IMMIGRANTS
ARE ON WELFARE,
COMPARED WITH
LESS THAN 8% OF
NATIVES

DATA: BUSINESS WEEK

y a sizable amount of taxes. The em: Most of the costs, such as ling and education, show up at the level, while most of the tax revenue to the federal and state govern- s. Take Los Angeles County, which tly estimated that illegal immi- s paid \$904 million in taxes and to all levels of government in 1991- he county and other local govern- s, however, received no more than million of that, about 14%—far less the costs of services to illegal grants.

BUTTON. With a weak economy forc- ocal governments to tighten bud- it's little surprise that anti-immi- on sentiment is on the rise in rnia. In last week's Los Angeles ral election, won by Republican rd Riordan, opponent Michael Woo ed himself into a mild version of Buchanan on immigration issues," Mark Petracca, professor of politi- ciency at the University of Califor- t Irvine. In the earlier primary, a candidate had called for the imme- deportations of city gang members vere undocumented aliens. And ille-

gal immigration may re- place abortion as the hot-button issue in Cali- fornia's next gubern- torial race two years from now.

The same qualms are driving immigration policy at the federal level. The White House, alarmed at the growing number of illegal Chinese and other immi- grants who are slipping into the U.S., this winter directed the National Security Coun- cil to try to curb the flow without tramp- ling on the rights of bona fide political refugees. As a result, the Coast Guard has stepped up surveillance of offshore vessels, and the INS now routinely de- tains Chinese illegals while their re- quests for asylum are pending. In the past, they were usually released on their own recognizance.

But no one expects anything like a major overhaul of refugee or immigra- tion policies. For starters, President Clin- ton still hasn't appointed a new INS com-

**THE NUMBER OF
ASIAN IMMIGRANTS
EMPLOYED IN NEW
YORK CITY ROSE TO
228,000 IN 1990
FROM 36,000
IN 1970**

SOURCE: NEW YORK CITY DEPARTMENT OF ECONOMIC DEVELOPMENT

missioner. The whole issue is politically explo- sive. And advocacy groups fiercely resist any curbs on due pro- cess—let alone num- bers—of immigrants.

Indeed, at a time when the new French government is talking about a "zero-immigra- tion" policy and Germa- ny has scaled back the right of asylum, there are no signs of such a

movement in the U.S. Thirty-year-old Leila, an illegal immigrant from Hondur- as, knows that. She came to Miami on May 16 with a job lined up as a maid for a wealthy family here. "I've seen that in this country you can work for money to buy things and lead a better life," she says. To people such as Leila, America's door remains wide open.

By Michael J. Mandel and Christopher Farrell in New York, with Amy Borrus in Washington, Russell Mitchell in San Francisco, Irene Recio in Miami, and bureau reports

scholar, "stand to make huge money from people who want to a."

S. can barely keep up with the ore than 20 ships were inter- the past 14 months by U.S. —and the Immigration & Nat- Service estimates that as 0 ships are now being refitted e more migrants.

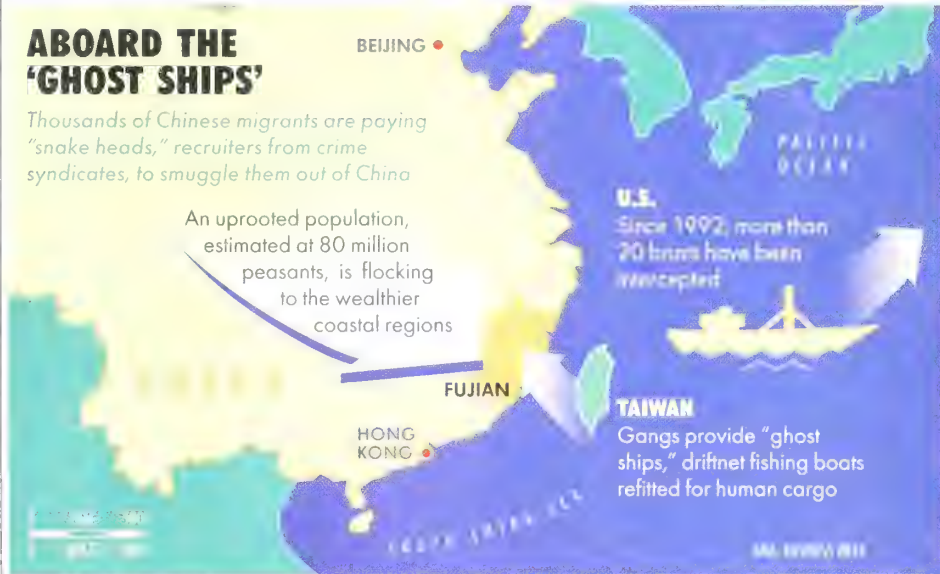
INT. If they survive the jour- ese refugees have a good staying in the U.S. When de- the INS, many say they partici- he 1989 democracy movement im of China's harsh one-child a result, about 85% of those st it are given political asylum. ocedures and practices have solicitous of Chinese claims," ur C. Helton, director of the oject of the Lawyers Commit- uman Rights in New York. s suggestion of invitation."

n countries with stricter asy- es attract Chinese migrants. i Fujian have been making the to Taiwan for years, even Taiwanese government regu- mainlanders back to China. In hip with 145 people—mainly vas seized in Japanese waters. n rejects almost all requests d, the migrants will eventually d. Law enforcement officials pect there is an international uetly trying to smuggle Chi- he country.

ays it is stepping up document

ABOARD THE 'GHOST SHIPS'

Thousands of Chinese migrants are paying "snake heads," recruiters from crime syndicates, to smuggle them out of China



checks at the borders, and its coast guard is on the lookout for suspicious vessels. But given China's runaway growth, surging inflation, and political uncertainties, stemming the outflow of people from its 1.2 billion population is hardly a priority. Beijing officials are also quick to point out that U.S. policies encourage Chinese people to seek political asylum—a policy which China would like to see end. But it's questionable whether Beijing officials can do anything about the situation on their own. "They would like to stop it," says a diplomat in Beijing, "but they don't know how."

Greater cooperation between Chinese and U.S. border officials would be one

way to slow the ghost ships, suggests Lieberthal. "The international community has to engage China," he says, "or we'll all be paying the piper."

However, since the Clinton Administra- tion has just placed human rights condi- tions on China's most-favored-nation sta- tus, any moves by the U.S. to force people to stay in China would be awk- ward. Back in Fujian, meanwhile, the snake heads are still recruiting, and the ghost ships are being readied for more voyages.

By Joyce Barnathan in Hong Kong and George Wehrfritz in Taipei, with Lynne Curry in Beijing and Amy Borrus in Washington

THIS WASN'T IN THE JOB DESCRIPTION

Treasury Secretary Bentsen is becoming Clinton's most potent lobbyist

When Senator Lloyd M. Bentsen took the job of Treasury Secretary last January, he welcomed the chance to leave the hurly-burly of Capitol Hill for the subdued marble corridors of the Treasury. Now a well-creased 72 and looking every inch the elder statesman, the Texas Democrat figured it would be nice to cap his career as a public servant with the globe-trotting Treasury stint.

Things haven't worked out that way. As Bill Clinton lurches from crisis to crisis in pushing his agenda, Bentsen has unexpectedly found himself back in his old Hill haunts. He is serving as the Administration's chief firefighter, arm-twister, and consensus-builder. It is not a role he relishes. "I've never seen a Secretary of the Treasury doing as much lobbying as I do," says an exasperated Bentsen. "Not this sustained dealing, this going from member to member."

He wouldn't have to do all this if Clinton—once advertised as a political savant—hadn't gotten into so much trouble. But these days, the Clinton Presidency has become an untidy amalgam of Bushian waffling and Carteresque ineptitude, with the President taking shaky positions and then bailing out under pressure. Congressional lobbyists increasingly view the courtly Treasury chief as one of the few Administration officials capable of saving his young boss's hide.

PHONE-A-THON. Now, as the White House struggles to build a Senate consensus behind its economic plan, Clinton will lean more heavily than ever on Bentsen. As former chairman of the Senate Finance Committee, Bentsen has taken charge of negotiations to win straying moderates back to the fold. He cut short a diplomatic tour of Europe to attend a June 5 White House skull session on drafting a substitute for the moribund BTU tax.

Bentsen then began working the

phones to oil-state senators, searching for an alternative that would replace Clinton's proposal with a levy that falls principally on energy consumers rather than producers. While the effort might yet unravel, it could be the key concession Clinton needed to blast his economic plan through Congress.

The compromise is a major victory for manufacturers and energy producers, who view Bentsen as a key ally in a hostile Administration. The White House, complains American Business Conference President Barry K. Rogstad, "still has a ways to go to learn how to put together a legislative program and then get broad levels of support for it.



Building a consensus at the old club: Majority leader George Mitchell, Bentsen, and Finance Committee Chairman Pat Moynihan

But Bentsen has always been open to ideas and willing to listen." Indeed, Bentsen was an early proponent of the BTU tax. But the arguments of business leaders helped change his mind. "I've had some concerns about how it would affect our competitiveness," he says.

While the death of the BTU tax has won the White House allies in the oil patch, Bentsen now must assuage concerns among young liberals. The substitute energy levy, which could impose a tax on electric bills or transportation fuel, will leave lawmakers up to \$30 billion shy of their deficit-reduction target. And the difference will be made up in cuts to domestic spending, with Medi-

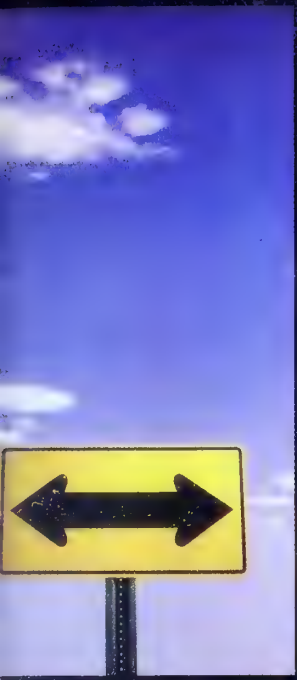
care and Medicaid bearing the brunt. Bentsen knows that won't go down easily. "It's a question of how far we can go to satisfy the moderate Democrats before we run into trouble from the liberals," he says.

Bentsen's job as superlobbyist will end with the budget. He'll also play a key role lining up support for the North American Free Trade Agreement, health-care reform, both of which are in trouble on the Hill. NAFTA faces opposition from Democrats with ties to labor and environmentalists. Bentsen can be expected to lend U.S. Trade Representative Mickey Kantor a hand when his pact goes to the Hill, probably in a month. "It's not my jurisdiction, but I damn well get involved," he says.

Health care could be an even tougher nut. New polls show that, increasingly, voters don't trust the Administration to enact radical reforms. And Bentsen, allied with other Administration moderates, has been arguing internally that Hillary Rodham Clinton's sweeping plan must be phased in to avoid hitting business with massive new costs.

Lobbying aside, Bentsen's influence seems destined to grow in coming months as Clinton moves to the center. Critics say Bentsen has lost some of his previous lobbying efforts because he hasn't always fully believed in what he's selling. "They're asking him to carry water in a leaky bucket that he didn't sign," says ranking Finance Committee member Bob Packwood (R-Ore.). Now, as Bill Clinton's policy moves in the direction Bentsen's direction, he should become a far more effective spokesman—and perhaps make his mark as a memoirist as Treasury Secretary.

By Paul Magnusson, with Mike Namee, in Washington



That little map wasn't
worth two dead flies.

You said turn left.

Right like turn right
or right like not wrong?

Right.

You know what I mean.
See ya at the clubhouse.



*When you want the convenience
of a cellular phone, you need
the quality of a Motorola.*



MOTOROLA

Commentary/by Bruce Nussbaum

WHAT DOES 'THE POLITICS OF MEANING' MEAN FOR AMERICA

The politics of meaning. If ever there was a phrase that reeked of New Age babble and existentialist blather, this is it. Ripe for ridicule, a magnet for cynicism, the words practically beg for dismissal.

Not so fast. The politics of meaning has won a powerful convert: Hillary Rodham Clinton. By peppering an April speech with references to it, the First Lady turned an obscure philosophy into a hot topic on the Washington cocktail circuit. Pundits and policymakers debate: Is Hillary spouting muzzy-headed nonsense? Or is she pushing the Democratic Party to usurp the right wing's crusade over family values in America? And who came up with this stuff, anyway?

The last question, at least, has a simple answer. The guru of the politics of meaning is Michael Lerner, the 50-year-old editor of *Tikkun Magazine*, a bi-monthly liberal Jewish journal of politics, culture, and society published in New York. Lerner founded *Tikkun* in 1986 as an alternative to *Commentary*, a neo-conservative journal of Jewish opinion. He claims a circulation of 40,000 for the current issue, which features several articles on how the Clintons are wrestling with his philosophy.

ONLY CONNECT. So what is the politics of meaning? Start with Lerner's precept that people come into the world in relationships—at least with a mother and usually with a father. "We are never fundamentally alone," he says. "So the healthy human being is the loving human being, the person involved in loving connection with other human beings." But such connections have been sundered in modern America, says Lerner: The market economy, with its emphasis on individual achievement over communal obligation, has sown feelings of alienation, betrayal, mistrust, and fear.

Lerner's personal contact with the Clintons has been limited. He first met Hillary Clinton after her recent speech and has had only one brief meeting with her since then. Lerner initially encountered the President in 1988, when Bill Clinton, then governor of



LERNER: LURCHING BETWEEN LEFTIST EXTREMES AND CENTRIST VALUES

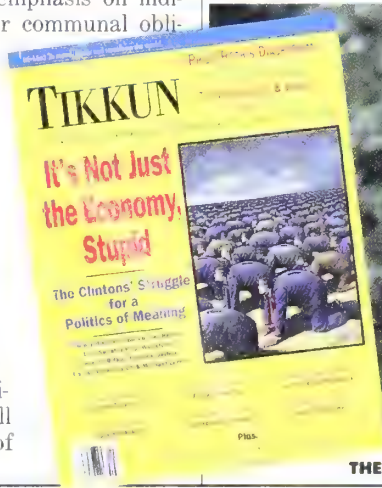
Arkansas, wrote Lerner to congratulate him on his analysis in *Tikkun* of why the Democratic Party lost that year's Presidential election. Lerner argued that the Democrats lost the votes of working people because candidate Michael Dukakis offered no leadership on issues relating to the erosion of family values.

These days, it appears that the Clintons have read Lerner closely, and Hillary has borrowed freely from him in sketching out her vision of America. In her Austin (Tex.) speech, for example, she called for a "politics of meaning" to heal a nation torn by "alienation and despair and hopelessness." What's remarkable is that this notion of frank spiritual-

Lerner then helped found the union supported Institute of Mental Health in Oakland, California, where he worked as a therapist. There, he counseled auto workers, seamen, and machinists, all of whom were bringing home the frustrations of working in one form of self-blaming. They blamed themselves for the stresses they felt from being so dumb for having to work.

If Hillary Clinton wants to borrow from Lerner in fashioning a new Democratic Party, she should be wary of his tangle of ideas. While the politics of meaning encourages Democrats to move to the center and talk about family values, at the same time it lurches toward the left with its extramarital hostility toward the free market economy. The First Lady's aides are scrambling to play the link between her and the prominent Lerner.

It's not that Lerner is an avowed Marxist revolutionary. "I've always believed in all existing systems, including communism," he says.



THE CLINTONS: LISTENING TO LERNER'S GOSPEL

on't understand what human be-
e, so I reject them all," he says.
his feelings that unusual for a
thinker: Roman Catholics, Mus-
Buddhists all have been periodi-
cally to the market and its view of
materialistic creatures without
values.

akes Lerner unique, even bizarre,
he proposes to tackle this anomie.
mostly big government solutions
ly personal, individual struggles.
urrent issue of *Tikkun*, for exam-
ple, suggests the Clinton Adminis-
tration adopt five recommendations to turn
values of meaning into reality.

GROUPS. Consider his policy recom-
mendation No. 3: "The Department of La-
bor mandate that all workplaces of na-
tional Stress Groups (OSGs), in
which workers can learn how to recognize
stress, are fully at the workplace, and paid
for sessions on stress. OSGs should
include management personnel."

Recommendation No. 4: "The
Department of Labor should mandate that
employers allow workers to elect an
Occupational Safety & Health Committee
and to require changes in the orga-
nization of work to increase workers' safe-
ty, including mental health, and
the workers' opportunity to actual-
ize their skills and talents."

Lerner has to reach all the way
back to kibbutz to cite an example of a
community. He writes that his own expe-
rience shows that "even the most bor-
ing can be fulfilling to workers when
experienced as part of a larger project
of transcendent meaning and is dem-
onstrably shaped."

One can see how Lerner's philosophy
appeals to the Clintons as a way to
renew belief in activist government with-
out renewed spirituality. The trou-
ble Lerner has failed to demonstrate
good impulses would translate into
public policy. Fortunately, the Clin-
tons are most attracted to his ideas about
family, and values. Yet Hillary is
not Lerner's antimarket, Big Gov-
ernment in her evolving health-re-
form. She has attacked the phar-
maceutical industry, for example, and
strict government regulations and
controls on health care.

Lerner, the utopian vision of shared
community spirit grows out of
nostalgia. No doubt, he would make
Machiavelli. But Bill and Hillary Clinton
are on with the hard work of running
government. On that score, the politics
of may offer them scant help.

is BW's editorial page editor.

IS APPLE'S SHINE FINALLY FADING?

It must quickly polish up profits, as Windows closes the technology gap

Apple Computer Inc., renegade in-
dividualist of the silicon world,
crusader against mind-numbing
me-tooism, has just joined the club. Like
nearly all its rivals before it, Apple final-
ly has fallen victim to the unending per-
sonal-computer price wars of the 1990s.

Apple Computer warned investors on
June 9 that, while shipments of its Mac-
intosh computers remain strong, pricing
pressure is putting the squeeze on mar-
gins. The upshot: Earnings for this quar-
ter and next will fall below the \$1.88 a
share posted for last year's second half.

Wall Street has some big problems
with that. Says analyst David Wu at
S.G. Warburg & Co.: "You have to be
dubious about Apple's ability to grow
earnings." Sure enough, Wu and his ilk
slashed their estimates of 1993 profits
by between \$40 million and \$60 million,
to about \$475 million. They also down-
graded recommendations on the stock—
from buy to hold.

Ratings agency
Moody's Investors
Service Inc., mean-
while, placed Apple
"under review," hint-
ing at a downgrade
that would affect the
company's \$500 mil-
lion shelf registra-
tion. Apple's stock,
needless to say, took
a drubbing, falling
19% over three days
to 44¼ on June 9
(chart).

Apple isn't much
accustomed to bad news, and Chairman
John Sculley clearly wasn't happy. In a
written statement, Sculley vowed to take
"aggressive actions" to pump up sales
and "appropriate actions" to create earn-
ings growth. The company won't elab-
orate, but insiders say that means a
three-pronged attack. First, the company
will announce rebates next week of \$50
to \$300 on some Macintosh models. It
likely will follow with permanent price
cuts in the next two weeks. Finally, the
Cupertino (Calif.) company is consider-
ing layoffs.

STRONG RIVALS. The potential price cuts
reflect a new reality for Apple: It no
longer can claim a huge technology edge
for its machines. It was one of the first
top brands to leap into the industry's
bargain basement, with a line of low-

cost Macs in 1990. But much has
changed since. Compaq Computer, Dell
Computer, AST Research, and IBM have
lopped prices this year, leaving Apple's
products at a 10% to 20% premium. Ap-
ple's LC III, for example, carries a sug-
gested retail price of \$1,349, \$200 higher
than Compaq's similar ProLinea 4/25s.

For years, Apple was able to justify
higher prices because its unique, graphi-
cal software made the Mac easy to use.
But Microsoft Corp.'s Windows soft-
ware, introduced in May, 1990, for IBM-
standard PCs, is closing that user-friend-
liness gap. That means, says analyst
Eugene Glazer at Dean Witter Discover
& Co., "they have to be more innovative
and go faster than everybody else."

Apple has some cards to play. This
summer, it is expected to introduce its
acclaimed hand-held communicator,
Newton, and two multimedia machines.
But these will come too late, and bring

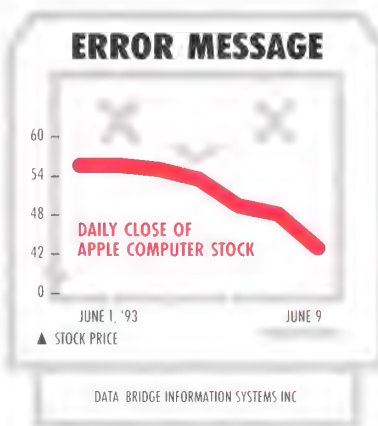
too little, to save
1993. Newton, for ex-
ample, will cost under
\$1,000, producing rev-
enues of less than \$50
million in its first 12
months, say analysts.

That leaves one so-
lution to this year's
profit squeeze: Pump
up the Mac volume.
And that's no easy
trick. Apple says
Macintosh unit sales
already were up 35%
in the first half of
this fiscal year. And

Apple's shelf space has been shrinking,
crimped by intense competition and its
own inability to produce enough of its
most popular machines. Take Memory
Bank Computer Center in Virginia
Beach, Va. Owner John Crow says he
stocked only Macintoshes for 13 years.
But last January he added IBM when Ap-
ple couldn't meet his needs. "I have to
have alternatives," Crow says. "We ain't
crusaders for Apple any more."

Apple has plenty of other zealots
where Crow came from. Scattered
among basement offices and neighbor-
hood PC stores everywhere, they're the
iconoclasts that make the company tick.
But they're a demanding lot. Apple has
to deliver them the goods, or risk perma-
nent me-too status.

By Kathy Rebello in San Francisco



ALL THE NEWS THAT'S FIT TO BUY

The *Times* will pay a billion-plus for the Boston *Globe*

Is New York Times Co. trying to buy *The Boston Globe*? And why would it want to?

The first question is easier to answer than the second: Although neither company is talking, insiders confirmed as BUSINESS WEEK went to press that an offer from the *Times* was scheduled to be voted on June 10, at a special board meeting of Affiliated Publications Inc., the *Globe*'s parent. The likely purchase price: in excess of \$1.1 billion, primarily in the form of a stock swap. As part of the agreement, the *Globe*'s founding Taylor family would retain control over the paper's editorial content for an extended period. "A year from now," says a *Globe* insider, "even a careful reader will have forgotten that *The New York Times* owns this paper."

Figuring out the *Times*' motive is tough. The cost savings from such a merger are likely to be small. And the price is fairly steep. Investment bankers say newspapers typically fetch no more than 12 times earnings before interest, taxes, depreciation, and amortization. Using 1992 figures, that puts a top price tag of \$850 million on Affiliated.

Nor would the might of a combined *Times* and *Globe* gain much clout in attracting new advertising, since most newspaper ads are local. By offering a package deal for two of the nation's largest markets to national advertisers, the *Times* could reap only small gains, some ad-agency media buyers say, and only at significant discounts. "I don't see where they'd pick up much additional advertising as a result of a merger," says Jack P. Cohen, a vice-president at DDB Needham Worldwide.

But the *Times* may be putting more than dollars and cents into the equation. The prestige of owning two of the nation's most influential voices must have

been a big factor. Outsiders close to the paper also say that the Sulzberger family, which controls the *Times*, is concerned about long-term demographic shifts in the New York area. With the region becoming dominated by immigrants and ethnic minorities, the paper frets that its traditional white-collar readership will diminish, along with the advertising base that targets those readers. The *Globe*, a near-monopoly in the more ethnically homogeneous Boston area, could help diversify Times Co.'s holdings and provide profits to prop up its flagship if the New York economy falters further.

HARD-HIT. The company also is betting on a rebound in the *Globe*'s depressed advertising base. The Boston paper was slammed by the recession, particularly by a steep drop in classified ads. Last year, Affiliated posted an operating profit of \$51 million on revenues of \$414 million. (The *Globe* contributes nearly all of Affiliated's revenues and profits.) That was down from the 1987 peak of \$107 million. But the *Globe* shows signs of a bounce-back. Its ad lineage climbed 2.9% in the first quarter, while the

Times' fell 4.8%. Indeed, the weak economy hit the *Times* even harder than *Globe*: Its operating income was \$11 million in 1992, on revenues of \$1.1 billion, down from a \$251 million in 1988.

Insiders say the impetus for the talks came from the *Globe*. The 75-year-old paper, one of the last independently owned editorial voices in a city, is controlled by the Taylor and Dan family trusts. Both trusts expire in January, 1996, when their Affiliated shares are scheduled to be distributed to the 100-plus heirs of the paper's founders. Fearing that the distribution would dilute the families' control—leverage with a potential buyer—Chairman William O. Taylor has spent the past few years quietly searching for a suitable merger partner.

But landing a buyer proved difficult. Anxious to preserve the *Globe*'s editorial integrity, Taylor confined his hunt to a handful of companies. He excluded such high-rollers as News Corp. and Gannett Co.—companies that might have paid top dollar. His insistence on retaining editorial control helped scuttle the *Globe*'s talks with the Washington Post Co. last year. Another problem, source close to the *Globe* says, was the offered "well under" \$1 billion.

If the merger is approved, the *Times* will likely concentrate on fine-tuning its business side. The two papers could combine some administrative functions, for instance. And the *Times* could use the *Globe*'s distribution network in New England. The *Times*, which on June 6 introduced limited access to its Sunday edition, may also have access to the *Globe*'s presses.

Such savings would be small compared with the gigantic purchase price. Maybe money isn't the point. The Sulzbergers have vowed to continue publishing the *Times*, even if they must subsidize the rest of their empire to support a money-losing flagship. That's the reason the company diversified in the 1980s by buying small papers. By that reasoning, *Globe* is merely an expensive insurance policy.

By Mark Marens
in Boston

IF NEW YORK'S
ECONOMY
FALTERS
FURTHER, THE
GLOBE COULD
DIVERSIFY TIMES'
HOLDINGS AND
PROVIDE PROFITS
TO PROP UP ITS
FLAGSHIP



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**HEWLETT
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The new HP LaserJet 4L. Just \$849.



AIDS

HOPEFUL TALK FROM JONAS SALK

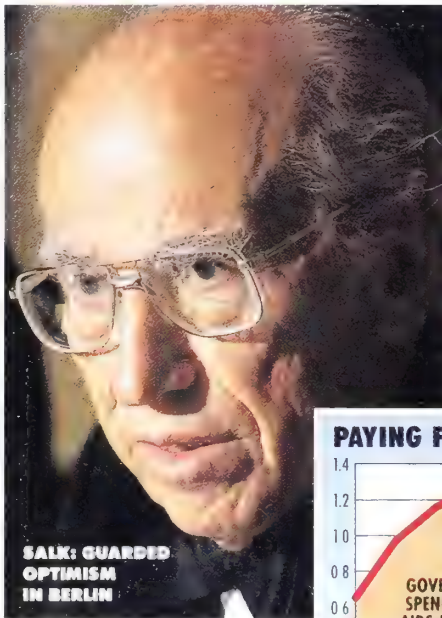
His new vaccine could delay AIDS in HIV carriers—maybe forever

At the time I was working on polio, they said I was a 'young upstart,' recalls Dr. Jonas E. Salk. "Now, I'm working on AIDS, and they're calling me an old 'has-been.'"

So the 78-year-old Salk drew some comfort when on June 9, researchers from Immune Response Corp. announced at the Ninth International Conference on AIDS in Berlin that their therapeutic vaccine for AIDS had shown positive results after a year of human trials. The company, which Salk co-founded in 1986, is developing the vaccine in a joint venture with pharmaceutical giant Rhône-Poulenc Rorer Inc. It may apply to the U.S. Food & Drug Administration later this year for approval to market the drug. Six years ago, when Salk first proposed the vaccine at an AIDS conference, he was laughed off the floor.

This time, Immune Response presented its results to a full house of interested scientists. Many, to be sure, still express doubt about Salk's approach. His vaccine isn't meant to prevent uninfected people from getting AIDS. Instead, it boosts the immune systems of carriers of the virus. Scientists note there's little precedent for an effective vaccine in already-infected people. "Salk's approach is like using a peashooter to fell Goliath," says one top U.S. AIDS researcher. Adds Daniel Bolognesi, an AIDS expert at Duke University Medical Center: "It will take a long time to validate."

DEAD CELLS. Salk, who became an American legend for his pioneering work against polio in 1955, is used to dealing with disbelievers in the scientific community. Back then, he was berated for applying "kitchen chemistry" to the scourge of polio. He simply killed the virus with formaldehyde and injected it into people. Scientists later came up with more elegant polio vaccines made from live, weakened strains. To battle AIDS, Salk is using a whole virus, killed with chemicals and radiation, in contrast to the outer shell of the virus that many other scientists are using as a basis for a vaccine.



Salk's approach is based on the premise that the immune system must have some mechanism for coping with HIV-infected cells, since individuals harbor the virus without developing AIDS symptoms for an average of 10 years. Salk's vaccine doesn't try to destroy HIV but merely to keep it at bay—perhaps indefinitely.

In Immune Response's trials, it did exactly that. In tests with 103 HIV-positive subjects, those injected with the vac-

cine three times in six months showed a scant 10% increase in viral levels in the blood, compared with a rise of 48% in the control group. The treated group also showed increased levels of immunity, measured by skin tests.

Investors in Immune Response hoped that the tests would show a decline in the viral levels. That disappointment led them to bid the company's stock down 5% points, to 16, on the day of the announcement. "The study was a success, but people were hoping for some dramatic breakthrough," says R. Brandon Fradd, a biotech analyst at Montgomery Securities in San Francisco.

PROPHYLACTIC. What's more, there's no guarantee that an infection treated with the drug won't later turn into full-blown AIDS. Still, because people infected with HIV can remain free of symptoms for so long, the FDA is allowing more marketing of new drugs for AIDS clinical trials are encouraging, though not necessarily conclusive. Fradd thinks the vaccine could win approval next year.

Meantime, Salk has already moved beyond work on the therapeutic vaccine. Lately, he has been refining his research to come up with a true prophylactic vaccine, one that would prevent people from contracting the virus in the first place. Salk maintains the therapeutic version was but a step along

way. "It was an idea for carrying out studies in humans more quickly, and offer insights into how a prophylactic AIDS vaccine might be done," he says.

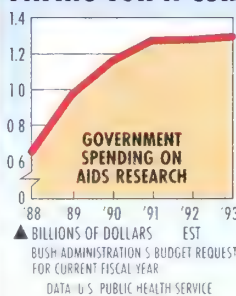
Salk's new hunch is characteristic of an unorthodox. He firmly rejects the conventional wisdom that AIDS could be conquered by a neutralizing antibody—usual way vaccines work. Instead, he argues that it should be treated as a cross between cancer and an immune disease. "It's an idea that has never been widely embraced," Salk concedes.

"But I'm going to continue to do different things, differently. Life is not a popularity contest."

That may be so in academia. But if Salk's AIDS research proves half as effective as the inelegant polio vaccine he produced years ago, it could guarantee that his name survives for another generation.

By Larry A. Strong in Los Angeles and Gail Schares in Berlin

PAYING FOR A CURE



FROM POLIO TO AIDS MILESTONES IN DR. JONAS SALK'S CAREER

- 1955** Developed an injected vaccine for polio
- 1968** Founded the Salk Institute, which conducts research in genetics and the immune system
- 1972** Published *Man Unfolding*, the first of several books on philosophy
- 1975** Stepped down as director of the Salk Institute
- 1986** Co-founded Immune Response Corp. and began research on an AIDS vaccine
- 1993** Announced that clinical trials of a vaccine for HIV-infected patients were successful



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AMERICA'S UMBRELLASM

WOW! WHO TAUGHT THOSE DINOSAURS TO ACT?

Chances are it was one of Hollywood's digital fix-it shops

Just try to spot Hollywood's latest star. With the summer movie season in full cry, you can't miss the thundering herds of dinosaur clones in Universal's *Jurassic Park*, Sylvester Stallone's Alpine acrobatics in TriStar's *Cliffhanger*, or—next month—Binx, a talking cat that bedevils Bette Midler in Disney's *Hocus Pocus*. But often, you won't even notice that in such movies the computer is a leading player.

This is Hollywood's digital summer. In the past, computer-generated effects were limited to razzle-dazzle stunts designed to elicit a "wow" from audiences. Who can forget, for instance, the morphing, molten-metal man in *Terminator 2*? Today, computers are still plying such fantasies. And movies such as Columbia Pictures Entertainment Co.'s *Last Action Hero* rely on them.

"OUT BY FIVE." But more and more, it's the digital effects you don't notice that are luring movie-makers to the technology. Slipping computer-generated characters, sets, and props into scenes is now the new way to pare precious time and dollars from huge movie budgets. For Walt Disney Co.'s *Super Mario Bros.*, computer mavens did 150 digital shots for less than the reported \$5 million that the 42 sequences in *Terminator 2* cost in 1991. Want to touch up a botched explosion, erase a boom mike, or remove the unsightly cables that secure Stallone to a rocky ledge? "No problem," says Christopher F. Woods, *Mario*'s visual effects supervisor. "Give it to the digital fix-it shop—in by nine, out by five."

New technology is driving this shift to digital production. Imaging software is now easier to use, and there have been rapid advances in hardware, from the 3-D gear of Silicon Graphics Inc. to IBM's pricey visualization supercomputers. Last fall, Eastman Kodak Co. opened a Hollywood studio where 35mm film can be scanned into computers without losing resolution or color. So far, its biggest customer is Disney, which wanted to digitize every frame of the 56-year-old *Snow White* to fix visual wrinkles for this summer's rerelease. Ed Jones, head

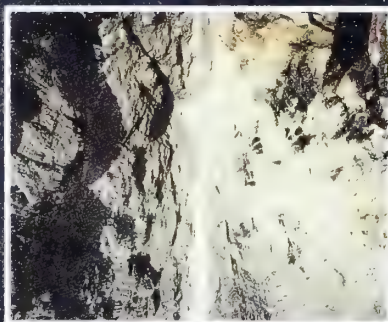
of the Kodak facility, says it's the first film digitized from start to finish.

The big studios seem to have found religion in silicon. After *Terminator 2*, says Kenneth Lemberger, vice-chairman of TriStar Pictures, a unit of Sony Pictures Entertainment Co., "it became clear that digital image manipulation was going to play a larger role in the production process, the postproduction

some 40 digital sequences in only a months. In one scene, a bad guy throws dynamite at Arnold Schwarzenegger but it ends up flying into the "audience." When airborne, the dynamite is really just a computer image. But when it lands, it morphs into a real object.

VIRTUAL EMOTING. For *Jurassic Park*, Industrial Light & Magic used footage of robot dinosaurs. But it also slipped digital dinosaurs for things the robots couldn't do, such as running, jumping, or, in fact, acting—showing expressions or attitudes. The images were designed starting with bones, then muscles, then skin. "You can see the skin move, their bellies sway," says Dennis Muren, senior effects supervisor at Lucasfilm Ltd. subsidiary. "We didn't think we could do that six months ago."

HOW SARAH FELL



◀ For "Sarah's Fall," a scene in TriStar's *Cliffhanger*, footage of a deep ravine was filmed on location in the Italian Alps.

▶ Meanwhile, the motions of the actress who plays Sarah were shot against a blue backdrop in Hollywood.



◀ Both sequences from the film were scanned into a computer. Using a technique called digital compositing, the images of Sarah were superimposed over the ravine on a computer screen, then transferred back to film.

DATA: BOSS FILM STUDIOS

process, and even in the transmission of movies." Fearful of losing control of this suddenly key aspect of moviemaking, Sony last fall set up Imageworks, its own digital studio, to handle effects for TriStar and Columbia.

But the studios still rely on effects houses for much of this work. For the fantasy sequences in *Last Action Hero*, where characters and objects move between the real world and the old-fashioned action movie within the movie, Columbia turned to imaging experts R/Greenberg Associates, which created

Disney discovered the same thing with *Hocus Pocus*. It built a robot model of its talking cat, but scrapped it in favor of a computer-generated head digitized and grafted onto film of a real cat. Says Chris A. Bailey, the cat's animation supervisor: "For things like moving and acting, computers have already passed robot technology." It seems the only thing computers can't yet do well is produce an intelligent script.

By Larry Armstrong in Los Angeles with Richard Brandt in San Francisco and Evan I. Schwartz in New York

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EDITED BY JULIE TILSNER

TRUCK ENVY

Thanks to low interest rates and aggressive pricing, Detroit is having a bang-up spring: Sales rose 14.4% in May, vs. a year ago. What's selling? Lots of pickup trucks. What's not? The Honda Accord, which has slipped all the way from its traditional No. 1 spot to No. 7. Honda figures a redesigned line of Accords—due this fall—will get the car moving again.

MODEL	MAY SALES
FORD F-SERIES PICKUP	50,862
CHEVY C/K PICKUP	49,633
FORD TAURUS	33,870
FORD RANGER PICKUP	31,531
TOYOTA CAMRY	30,684
DODGE CARAVAN MINIVAN	28,280
HONDA ACCORD	28,182
CHEVROLET CAVALIER	27,605
FORD EXPLORER	27,029
PONTIAC GRAND AM	27,005

DATA: AUTOMOTIVE NEWS

MICROSOFT HERE, MICROSOFT THERE...

► Microsoft wants all your office equipment to be on speaking terms. The giant already supplies the basic software that operates more than 100 million personal computers worldwide. Now, it's working with Hewlett-Packard, Xerox, Ricoh, Northern Telecom, and some 50 other companies to supply software that ties together newfangled fax machines, copiers, printers, and telephones. Called At Work, the new software will let people edit incoming faxes on their PCs and to fax documents from copiers, among other things. Machines running At Work are due this fall.

CHRYSLER GOES FOR A BETTER GRADE

► The Chrysler Comeback, continued: Standard & Poor's says it may bump the No. 3

carmaker's credit rating back to investment grade, lifting the company above its current BB+ rating for the first time since 1991. The move would also save the auto maker at least \$33 million in annual borrowing costs. The rating agency cites Chrysler's earnings, which are stronger than anticipated thanks to the success of new products such as the Jeep Grand Cherokee and LH family sedans. S&P is still monitoring Chrysler's effort to pay down its \$2.3 billion unfunded pension liability and the impact of a new three-year labor pact being negotiated this summer (page 146). S&P should make a final decision by fall.

JUSTICE SWINGS AT THE CABLE INDUSTRY

► The Justice Dept. took on the cable industry on June 9 by filing a civil antitrust suit against Primestar Partners, a consortium of cable companies that share a single satellite. Also targeted are Primestar's 10 members and their parent companies, including giants Tele-Communications and Time Warner. Experts have long been expecting government action against the cable industry, which has seen very little regulation during the past decade in spite of explosive growth.

Justice alleges Primestar and its members conspired to block other companies from

Details, details. Just now, what's standing between Sweden and the European Community is a half-ton, clawed and fanged detail. Each year, Swedish hunters legally trim back an underfed herd of 700 brown bears, turning about 5% of the animals into fireplace rugs or freezer filler. Bear hunting is, in fact, a centuries-old Swedish tradition. But this year, the country began negotiating to become a member of the 12-nation EC—slaughter of the endangered bruin is verboten.

Sweden's attempts to sway the EC have met with as much enthusiasm as Norway's resumption of hunting the endangered minke whale. "Usually when countries want to join... they have to change their laws," says an EC spokesman. Swedes, though, rejected an EC position paper to that effect May—citing a treaty that they say permits "herd management." The EC remains unimpressed.



the direct-broadcast satellite business by restricting access to their programming. The government also filed a proposed consent decree, which would settle the suit after court approval. Among other things, the decree prohibits the companies from conspiring to keep new competitors out, or from retaliating against rivals.

wife, Seema. Boesky won the rights to a \$2.1 million California house. The two were divorced last year after 30 years of marriage. Boesky, who told the press he was broke because of fines and restitution, claimed that he had made his ex-wife "rich beyond wildest imaginings." Boesky served three years in prison.

IVAN THE BACHELOR

Ivan F. Boesky, the securities dealer convicted of insider trading in 1986, agreed to accept \$20 million in cash and \$180,000 a year for life in a divorce settlement with his

LIVE FROM NEW YORK IT'S MACY'S

► The rag trade goes live on June 1, R. H. Macy, in a rumpus since early 1992. Macy's announced plans to launch a 24-hour shopping channel. CBS producer Howard Stern signed on as a consultant, and on June 7, the Shopping Network agreed to handle customer inquiries and order-taking. Other retailers, among them Bloomingdale's, Fifth Avenue and Bloomingdale's, also hawk their wares on TV. But there could be more going on behind the scenes: Macy's is 17% owned by Larry Tisch, who owns 23% of CBS. Industry sources speculate that the bigwig could use the Shopping channel as a way to regain control of the cable business and oust his Macy's investor.





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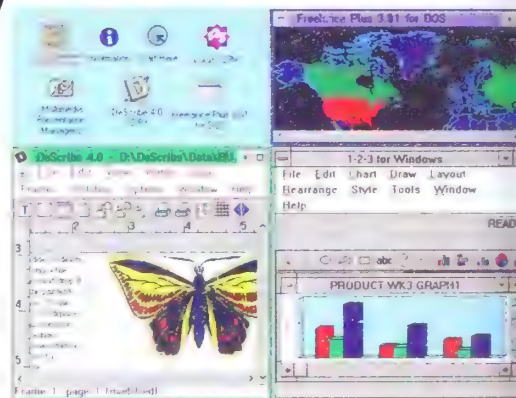
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LABOR DIDN'T EXPECT MUCH FROM BILL CLINTON AND IS GETTING EVEN LESS

Even though the AFL-CIO went all-out for Bill Clinton last fall, labor leaders greeted the new Administration with limited expectations. They were counting on Clinton to make some public-works spending and modest changes in laws. The big prize: national health insurance, a goal of organized labor for decades.

But with Clinton's political strength at a low ebb, even limited goals look elusive. Clinton's stimulus package is early, and his plans for "investments" in infrastructure and job training are in jeopardy in Congress. Labor is sticking to Clinton—it has nowhere else to go—but it's increasingly impatient. "We're still hoping," says a rueful lobbyist. Clinton's still in the learning process. He may be a slower learner politically than previous Presidents.

Labor's next setback will likely come when Congress takes legislation prohibiting companies from hiring permanent replacements for striking workers. The House is expected to vote on the measure this month. But Clinton's woes, and Democratic Senator Robert C. Krueger's loss to Kay Bailey Hutchison in a June 5 special election in Texas, probably doom the chances of breaking a GOP filibuster.

ED CLOUT. Unions have been cheered by Hillary Rodham Clinton's support for a generous health-care plan funded by a tax on employers. The big fear now is that the Administration will lack the clout to push the program through Congress even next year.

Technically, the only real help unions are getting these days is from the National Labor Relations Board, which acquired a strong promanagement slant in the last 12 years. Clinton's inactivity in filling jobs left the board fully in the hands of GOP appointees. But on May 28, the NLRB handed labor a big victory when it made it harder for employers to bypass unions by setting up worker-management teams. The decision, which involved several DuPont Co. plants, extended an earlier ruling that worker committees at nonunionized facilities were illegal "company unions."

With the tide running against labor on Capitol Hill, unions' strategy may be working to save Democrats in what

could be a rough midterm election in 1994. The biggest danger is that the GOP could win the five seats it needs to recapture the Senate. That's why many labor leaders are refocusing their political efforts on the state and local level rather than on Washington. "We're not counting on anybody bailing us out," says Christopher L. Scott, president of the North Carolina AFL-CIO. "We're here, scratching and clawing."

By Christina Del Valle

AN ACTIVIST AT ANTITRUST

The conflict between old liberals and New Democrats for the soul of the Clinton Administration may cause tension in the Justice Dept.'s Antitrust Div. The Clintonites have said they favor mergers that promote U.S. competitiveness. But the President's nominee to head Antitrust, Anne K. Bingaman, is a plaintiff's lawyer with a reputation for being tough on big companies.

Bingaman, the wife of Senator Jeff Bingaman (D-N.M.), helped break up the international uranium cartel in the late 1970s. She now represents Floridians who claim Southern Bell Telephone & Telegraph Co. forced them to buy unneeded services. If confirmed, she may go after pricing arrangements between manufacturers and distributors, an area which Democrats say has been neglected. "She's likely to be an activist," says former New York state antitrust chief Lloyd Constantine.

But international competitiveness is a fresh challenge for Bingaman. Fans of new-style antitrust policy count on Georgetown University law professor Robert Pitofsky, a Clinton adviser, to coach her. He holds the view that U.S. companies in key distressed industries, such as aerospace, should be allowed to consolidate to meet foreign competition. Bingaman is expected to be both a tough enforcer and a New Democrat. That will require her to find the narrow path between liberal and moderate policies that has so far eluded Bill Clinton.

By Catherine Yang

TECHNICAL WRAPUP

SETS

Are companies getting too good at protecting data from electronic eavesdroppers? Perhaps, the government thinks so. It fears that widely used commercial data-security technology could be used by drug dealers and money-launderers. A big leg up on law-enforcement agencies. So despite the overwhelming opposition, the National Institute of Standards & Technology is pushing companies to adopt an encryption technology it has developed that would make it easier for the government to snoop. NIST's "key escrow" chip would protect everything from E-mail to bank teller machines. But business-

es have three big objections: Despite elaborate safeguards, companies fear the government could monitor communications at will. Because the actual encryption method is secret, they're not satisfied with government assurances that it is secure from hacker attack. And they don't like the fact that they would have to buy a custom computer chip rather than more-flexible software. To ease these fears, NIST will let a team of independent experts study the classified computer code. And in a bow to reality, the agency has agreed that the new chip will be used only by government agencies "until significant public policy and technical issues... are fully understood."

ELECTIONS

Democratic officeholders, who are feeling growing trepidation about the 1994 election, found little comfort in early June voting. Though the debacle in Texas grabbed the headlines, there were worrisome signs in New Jersey and California. In the Garden State, Christine Todd Whitman handily won the GOP gubernatorial nomination on June 8 and is expected to give battered incumbent Democrat Jim Florio a tough race this fall. And in the Los Angeles mayoral election, conservative businessman Richard Riordan's rout of Michael Woo suggests trouble ahead for liberals.



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RUSSIA



THE RUSSIAN GOVERNMENT WANTS TO ENCOURAGE PRIVATE OWNERSHIP OF FARMS

WHAT YELTSIN IS OFFERING...

- ▶ Further democratic reforms
- ▶ Big cuts in government subsidies
- ▶ Higher interest rates to slow inflation and curb credit growth
- ▶ Faster privatization

...AND THE WEST IS PROPOSING

- ▶ IMF loans of up to \$7 billion
- ▶ World Bank loans of up to \$5 billion and aid for privatization
- ▶ Up to \$25 billion in assistance from the U.S., Japan, and other countries

DATA: INSTITUTE OF INTERNATIONAL FINANCE, BUSINESS WEEK

RUSSIA: THE CAVALRY IS ON THE WAY

But will \$30 billion in international aid keep the nation afloat?

A few months ago, the outlook for large-scale Western aid to the battered Russian economy seemed as dark as the plot of a Dostoevski novel. But suddenly, as the Tokyo economic summit nears, plans are shaping up to confer grants, credits, and debt concessions worth up to \$37 billion on Russia, almost twice as much as in 1992 (table). And President Clinton hopes to add to the pile with a \$4 billion, internationally financed fund for helping private companies.

About \$16 billion of the package is simply debt rescheduling, which reduces the out-of-pocket costs to those helping Russia. Even so, it's hard to see why anyone, especially such a tough lender as the International Monetary Fund, would ever lift a finger for a country that's a development banker's worst nightmare. Russia's inflation is still running at nearly 20% a month. The ruble has plunged to 1,100 to the dollar—a nearly tenfold drop during the past year. Counterfeit currency can be found everywhere. The government cannot service any of its \$72 billion in foreign debts, and it expects a deficit of 10 trillion rubles in 1993.

But over the last two months, new attitudes have developed in the international community. The first is a slowly growing hope, in and out of Russia, about the country's future. Just as important is the sense, especially in the U.S., that Russia is at a crossroads and must be helped, whatever the risk. "The stakes are so large it's vital to encour-

age reform," stresses Robert B. Zoellick, George Bush's Under Secretary of State in charge of Russian assistance. "We should not treat Russia like a 19th-century American debt nation." Help Russia, the argument goes, and you maintain global stability. Do nothing, and you may lose all the benefits to be had from the end of the cold war.

With this sense of urgency built into IMF and Administration officials' watchfulness for signs of progress. Just a few months ago there was a real risk of Weimar Russia converting back to hyperinflationism," says Lawrence H. Summers, Treasury Under Secretary for international affairs. But President Boris Yeltsin's victory over conservatives in the Apr. 25 referendum changed the mood. Since then, he has increased his influence over Russia's central bank, and he has raised interest rates to combat



CLINTON WANTS TO PROVIDE FLEDGLING RUSSIAN CAPITALISTS WITH \$4 BILLION

lation, and stepped up the pace of
ization of farms and factories.

progress in Moscow has rein-
Clinton's zeal to boost U. S. assis-
Bush extended \$4.5 billion in agri-
al credits to Russia but provided
\$417 million in direct assistance in
Clinton has proposed an additional
million in direct aid to Russia and
former Soviet republics over the
4 months. The plan passed its first
on May 26, when a House Appro-
ons subcommittee figured out how
and the request.

provide new Russian capitalists
\$4 billion, Clinton is expending po-
capital to get Japan, Germany,
e, Italy, Britain, and Canada to
n. On June 8, Secretary of State
n M. Christopher flew to Europe
hat an aide calls "a little bit of
atic arm-twisting." He will have
st hard. European nations, deep in
ion, aren't in a mood to offer more
hey have already promised.

IMF. At times, Clinton's enthusi-
has been counterproductive. The
miffed that Administration offi-
ave pressured it to release a first
ment of \$1.5 billion in credit by
ne, whether the Russians meet all
ions or not. "We don't take orders
President Clinton," sniffs one fund
l, who says the IMF will release the
as soon as its board formalizes
reement with Russia. That should
before the summit, where leaders
seven industrial powers can be-
he aid on Yeltsin.

obtain IMF credits, the Russian au-
es have agreed to specific targets
rbing inflation and reducing the
e. On June 2, the central bank
its short-term interest rate from
o 110% a year. But the IMF wants
ussian authorities to raise their
s close to commercial-bank rates,
tly 160%, by July 15. The IMF's
to reduce inflation to 5% a month
end of 1993.

not everyone is finding it easier to
with the Russians now. A consor-
of Western commercial banks is
ating for repayment of up to \$25
in debt run up by the former Sovi-
ion. According to one banking
, the lenders have offered a five-
moratorium, with repayment
ed out over the next 10 years.
e Russian government is balking
ands for repayment guarantees.
danger is that the Yeltsin govern-
will start balking at many more
ds from creditors if Russia deteri-
That's the pessimists' scenario.
w, the Clinton Administration and
are betting on the happy ending.
hen Ullmann in Washington, with
h Stead in Moscow and Bill Javetski
kholm

KAZAKHSTAN

KAZAKHSTAN IS CUTTING PRETTY SLICK OIL DEALS

With two new agreements, it's a role model for other republics

Two years ago, it was a Soviet re-
public most Westerners had never
heard of. But Kazakhstan is inde-
pendent now—and the Central Asian
country that no one knew has become
the world's hottest oil play. How hot?
On June 8, OPEC said Kazakhstan could
have observer status in the oil cartel.
And on June 9, top managers from sev-
en of the world's biggest energy compa-
nies penned an agreement in Alma Ata,
the Kazakh capital, to open a huge
stretch of the Caspian Sea to Western
production. That agreement follows
Chevron Corp.'s April announcement of
a multibillion-dollar joint venture to drill

recoverable oil. Chevron, already pump-
ing at Tenghiz, more than doubles its oil
reserves through its Kazakh deal: It
could be producing 700,000 barrels a day
by the next decade. If the various proj-
ects pan out, says Nursultan Nazar-
bayev, the country's president, Kazakh-
stan "will become one of the world's
leading oil exporters."

TREACHEROUS. For the newly indepen-
dent republics that have broken free of
Moscow, Kazakhstan's oil agreements
"are already serving as a model," says
Matthew Sagers, director of energy ser-
vices at consultants PlanEcon Inc. in
Washington. Azerbaijan, for example, is
now structuring agree-
ments in its part of the
Caspian much like Chev-
ron's at Tenghiz.

North of Kazakhstan, in
Russia itself, things are
different. Instead of ea-
gerly recruiting outside
help, Moscow's bureau-
cracy has proved treacherous
going for international oil
companies. Just in early
June, Russian energy offi-
cials surprised foreign oil-
men by temporarily sus-
pending pipeline privileges
for several joint ventures.
Because of such confu-
sion, say industry execu-
tives, Russia has failed to
cut any oil deals as big as
Kazakhstan's.

Nowhere is the chaos more evident
than in the White Nights project, Rus-
sia's foremost joint venture with West-
ern companies. Launched in 1990 in Sibe-
ria, it linked state oil group Varyegan-
neftegas with Salomon Brothers' Phibro
Energy Production Inc. and Houston's
Anglo-Suisse. The deal has been plagued
by bickering almost from the start. Phi-
bro, which has sunk almost \$120 million
into White Nights, has warned that the
Russians' squabbling could close the
venture down.

Russia's oil patch may yet turn out to
be an investor-friendly place. Efforts to
rewrite Russia's constitution could clear
away the legal uncertainties that en-
snare many foreign oil companies. Mean-
while, Kazakhstan is gaining by leaps
and bounds on its former master.

*By John Rossant in Alma Ata, with
Deborah Stead in Moscow*

WHILE FOREIGN OIL VENTURES STALL OUT IN RUSSIA...

Company/Where	Status
PHIBRO, ANGLO-SUISSE /Siberia	Bogged down
MARATHON, MITSUI, SHELL / Sakhalin Island	Deal delayed
CONOCO /Northern Russia	Proceeding slowly

...IT'S FULL SPEED AHEAD IN KAZAKHSTAN

CHEVRON /Tenghiz	Launched in April
AGIP, BRITISH GAS /Karachagansk	Close to agreement
MOBIL, SHELL, TOTAL, AGIP, STATOIL, BRITISH GAS, BP /Caspian Sea	Deal signed in June

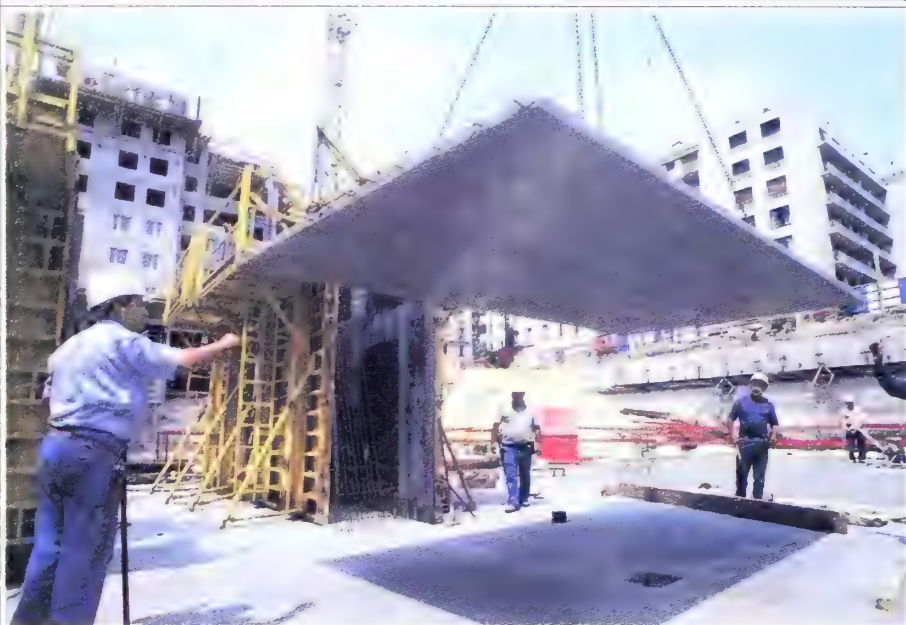
DATA: BUSINESS WEEK

in Kazakhstan's huge Tenghiz field.
Coming up: a natural-gas deal with Brit-
ish Petroleum Co. and Italy's Agip. Kaz-
akhstan, says one oilman, "could be the
next Kuwait."

The landlocked country also could be
the answer to oilmen's dreams of finally
making money in the former Soviet
Union. They certainly haven't profited
yet from their efforts in Russia, where
energy companies have encountered one
frustration after another (table). In con-
trast, it's much easier to make progress
with the strong Kazakh regime. Says
one U.S. oil executive who deals with
both the Kazakhs and the Russians:
"Kazakhstan has a government, and the
Kazakh government controls Kazakh-
stan. Who controls Russia?"

It helps that the Kazakh government
controls a part of the Caspian that may
have as much as 35 billion barrels of

EUROPE



FRANCE OFFERS TAX BREAKS FOR NEW CONSTRUCTION AND HIRING

DOWN AND OUT—IN ROME, BONN, MADRID...

Record postwar unemployment has the EC in a state of crisis

Only once before has Fiat taken such a drastic step: in 1979, when Italy was in turmoil and the car market slumped. This year, with sales down more than 20%, the auto maker has again declared a state of crisis. That lets it legally shove workers out factory doors in huge numbers on week-to-week furloughs. An average of 20,000 Fiat employees will likely be out of work for many months. And if the cars don't start selling, a lot of workers could risk losing their jobs for good.

The crisis isn't just at Fiat. As Europe plunges deeper into its worst postwar recession, a flurry of pink slips is pushing unemployment toward record levels (chart). And that's scaring governments silly. Job protection has become the top worry. At the European Community's Copenhagen summit on June 21-22, jobs will be the key issue. In France, the government is rushing through emergency steps, such as tax incentives for construction, while Britain is offering help to job-creating startups.

DARK WARNINGS. Sadly for Europe, such finger-in-the-dike measures by cash-strapped governments won't solve the problem. Aside from Britain's current weak upturn, European recovery may be a year away. Even then, nagging structural problems mean Europe

faces a long-term struggle to create enough work to go around.

"Something is basically wrong," says Padraig Flynn, the EC's social affairs commissioner, who notes that even the late-1980s boom made only a small dent in unemployment. A big cut, he figures, would require 5% to 6% yearly economic growth for the rest of the decade. "That's not going to happen," he says. In Spain, 22% unemployment is the crucial issue for the new government (page 60)—with union leaders warning of a generation growing into middle age without finding work.

At Copenhagen, leaders are likely to launch an 18-month search for solutions. Freeing companies from the crushing costs of Europe's social net is the key structural move, many experts say. For EC Commission President Jacques Delors, it is a vicious cycle: The cost of carrying 17 million jobless hurts EC competitiveness, he says, and throws still more workers on the street.

Sharp cuts in benefits are not a feasi-

ble solution: They might bring on a social explosion. Instead, experts suggest gradually shifting more of such costs from companies to employees—Austrian style. Another remedy: greater employment flexibility, including jobbing by part-time workers. Shorter workweeks leaders hope \$42 billion in planned cuts and guarantees from Brussels will dull the pain of joblessness.

BAND-AID REMEDIES. That's only a temporary gap, however: Europe is trying to cut unemployment on a shoestring. Germany, already spending \$28 billion annually to curb unemployment in the east, can't afford new programs. But elections next year, and unemployment expected to be a critical priority. For example, although engineering giant Mannesmann has cut 10% of its work force in early 1992, CEO Werner H. Dieterich says the layoff pace must speed up. The chemical producer Hoechst warns it may move 8,500 jobs outside Germany.

In Britain, the government is offering Band-Aids such as small increases in unemployment checks for jobless people who do voluntary community work. In cash-strapped France, an emergency plan taking effect on July 1 will exempt companies from health-care and social charges on hires of low-skilled workers and will give tax credits for apprenticeship programs. But companies have rejected labor demands that they create new jobs as part of the plan. In reply, unions are threatening strikes.

Job woes are stirring other dangers. A trade fight could flare up over the new effort to limit imports of Japanese cars. A rising backlash against immigrants, in Germany and other countries,

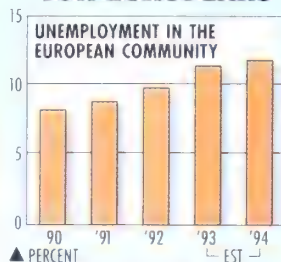
is another worry. France's new conservative government has launched a tough program, including domestic sidewalk checks, identity papers, and, at eventually reduced immigration to zero. In Britain, racist incidents are on the rise, and with work stoppages, anxious workers are demanding job guarantees. "There's a lot of discontent out there,"

Frank Dobson, shadow employment secretary in Britain's Labor Party.

"The prognosis is very grim," says Commissioner Flynn. Europe's problems are going to be anguishing over the next decades for a long time to come.

By Stewart Toy in Paris, with Templeman in Bonn, Patrick Ost in Brussels, and bureau reports

FEWER PAYCHECKS FOR EUROPEANS



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Commentary/by William C. Symonds and Seth Payne

CLEAR THE AIR BETWEEN THE U.S. AND CANADA

On its credit, the Clinton Administration is giving high priority to opening up more of the world's skies to unfettered competition. In early May, the U.S. began talking with Canada about liberalizing the highly restrictive agreement that currently governs flights between the two nations. A similar treaty with France expired May 3, and the U.S. is now resisting French demands to restrict access to their market. Negotiations are underway with Germany, and the U.S. is urging Japan and Australia to honor existing agreements.

But for all this activity, there's been precious little action on a market that's been heavily traveled by any of the above: U.S. and Canada. The Americans fly to Canada more than to any other country, yet talks about a free flight between the two nations are in a hold-pattern. The treaty, stalled since George Bush left office, is to get back on track following a June 30 meeting in Ottawa. At the time, the Transportation Dept. is taking one more poll of the industry to forge a consensus. Canada, meanwhile, has been distracted by a debate over whether to let American Airlines buy 25% of Canadian Airlines International, one of its two big carriers. But in late May,

Canada cleared a key hurdle when it approved by Canadian authorities. **MODED.** The costs of this inertia are enormous. Despite the four-year U.S.-Canada Free Trade Agreement, air travel between the two countries is still restricted by an outmoded "Y. U.S. carriers can serve just 44 "horized" routes, Canadians 28. U.S. airlines not listed in the agreement cannot be served, regardless of demand. The result: There are no nonstop flights between Washington's National Airport and Ottawa, Canada's capital. In fall, the Toronto Blue Jays beat Atlanta Braves in the World Series. But there are still no nonstop flights

between the two cities—a market Air Canada Chief Executive Hollis Harris calls the largest unserved air route in North America. For Midwesterners, it can be cheaper and easier to fly to the Swiss Alps than the Canadian Rockies.

A new treaty would benefit both countries. A recent study sponsored by a group of U.S. airports concluded that if the skies were opened up, transborder traffic would almost double within a few years, to more than 15 million passengers annually. The study also estimated that the resulting increase in tourism and trade would generate \$10.3 billion a year in additional economic activity.

away. But the Canadians have proposed an eight-year phase-out of restrictions on service by U.S. carriers to the three key Canadian airports—Toronto, Montreal, and Vancouver. U.S. negotiators are balking at such a lengthy phase-in. The Canadians also want to be given landing slots at two congested airports: Washington's National and New York's LaGuardia.

HEAD START. Fortunately, sensible compromises are apparent. The Canadians want a head start on open skies because of their historic disadvantage to the bigger U.S. carriers, which control almost two-thirds of the market for scheduled transborder flights.

The Canadians, however, should compromise on that issue. The distinction between U.S. and Canadian carriers is blurring. On top of the proposed American Airlines-Canadian Airlines International deal, Air Canada bought a 24% voting interest in Continental Airlines Inc. on Apr. 28. Air Canada also has a marketing alliance with United Airlines Inc. Companies without a Canadian partner, such as Delta, USAir, and Northwest, argue that a lengthy phase-in would give Continental, American, and their partners too big an advantage. But such criticisms might be dulled if Canada agreed to a shorter phase-in.

In return, the Americans should agree to improve the Canadians' access. The Administration could easily prod domestic airlines into selling some slots at National and LaGuardia to the Canadians. Surely, national interest dictates that our closest economic ally have better access to New York and Washington. But with Canada heading for national elections this fall, the negotiators need to work quickly. Otherwise, a reform that's long overdue could be delayed for yet another year.

Symonds heads BUSINESS WEEK's Toronto bureau. Payne covers airline policy from Washington.



**OPEN SKIES WOULD HELP THE ECONOMY,
YET ADD NOTHING TO THE DEFICIT**

In theory, both the U.S. and Canada support open skies. The current arrangement "doesn't serve the interests of business, the traveling public, or the air carriers—on either side of the border," says Daniel Molgat, the chief Canadian negotiator. But U.S. Transportation Secretary Federico F. Peña has delayed pushing the talks until he sees a sign that Canada will budge.

Ottawa now indicates it will do that. New talks may get under way by early summer. But for them to succeed, the two sides must stop jockeying for competitive advantage. Canada, for instance, has proposed that its carriers be allowed to fly to any U.S. city right

WHY SOCIALIST SPAIN WILL MOVE TOWARD THE MIDDLE

Although his fellow Socialists have tumbled from grace everywhere else in Europe, Spain's Felipe González survived the conservative wave, clinging narrowly to power in the June 6 elections. But Spain may be in for a new incarnation of its marathon Prime Minister, who has ruled for 11 years. Lacking a parliamentary majority for the first time in his four terms, González paradoxically may be more able to push Spain toward the free-market economic reforms it so badly needs.

That's because the Spanish Prime Minister may be freer to shake the strong leftist forces in his own party that have blocked previous attempts to shrink government and make Spain more competitive. Now, with only 38% of the vote, he is likely to be pulled toward the center. He probably can't govern without moderate votes—and may even have to forge a formal coalition with middle-of-the-road Catalan and Basque parties. That would be Spain's first coalition government since the late dictator Francisco Franco crushed the Spanish republic nearly 60 years ago. González is even talking "dialogue" with the 40-year-old rival he defeated, conservative leader José María Aznar. And while González has often vowed to squeeze budget deficits and liberalize rigid labor laws that add to business costs, now he may actually follow through. Privatization of Spanish industry could pick up steam—markets permitting.

SOCIAL PACT. It will all require deft political handiwork, especially in the midst of a recession and with an unemployment rate close to 22%. González is promising to negotiate a social pact with unions and employers to hold down rapidly rising wages and improve lagging competitiveness. But so far there's little reason to think the two sides can compromise. Labor opposes the six-month work contracts the Socialists have intro-

duced to help loosen tight restrictions on layoffs and training. And employers are livid over a union-backed bill drawn up by the government. It would give unions the upper hand in potential conflicts over setting minimum services during a strike.

Moreover, González may face new pressure from Basque and Catalan groups for greater regional independence. The possibility is spooking outsiders, who worry that a power-sharing coalition could lead to sclerosis. "Investors are going to be taking profits and backing away," predicts J. Paul Harris, an economist with Smith Barney, Harris Upham & Co. in Paris. That would be bad news for Madrid, which must first

cover a fat budget deficit and doesn't want to raise interest rates to do it.

For the moment, though, market traders are relieved at González's move toward the center. Pressure on the peseta has eased, in part because González is strongly pro-European, is theoretically committed to the Maastricht "convergence" rules of low inflation and government deficits. Probably the biggest risk for now is the risk of another devaluation—after three in the past 10 months, most recently on May 1.

Spain's new government could be short-lived. In a polarized parliament, pushing through unpalatable adjustment policies "will be very difficult," says Alfonso Gajate, an executive at Alcatel Alsthom's Spanish unit. "But if he doesn't, there could be an election in 1995." Or González might quit and try to win a major party in new elections. Then again, the term of European Commission President Jacques Delors expires next year, and González is thought to covet that post. Spain's business leaders, who before he heads off to Brussels, their long-ruling Prime Minister tackles the tough economic problems that have bedeviled him for so many years.

By Gary Abramson in Madrid, with Stewart Toy in



TO GOVERN, GONZALEZ NEEDS THE MODERATES

duced to help loosen tight restrictions on layoffs and training. And employers are livid over a union-backed bill drawn up by the government. It would give unions the upper hand in potential conflicts over setting minimum services during a strike.

By Gary Abramson in Madrid, with Stewart Toy in

GLOBAL WRAPUP

DEMOCRACY IN SIGHT?

Black and white leaders in South Africa jointly announced a provisional date for the country's first-ever elections with universal suffrage: Apr. 27, 1994. African National Congress leaders had promised party militants such a date, even though many prerequisites for an election are not yet in place. They needed a sign of rapid progress to help contain the anarchy of restive youths after the assassination of party honcho Chris Hani. But the ANC has also made big concessions to rival Inkatha Freedom Party, a potentially destabilizing factor, by surrendering the concept of a unitary state

and agreeing instead to a federal system of strong regional powers.

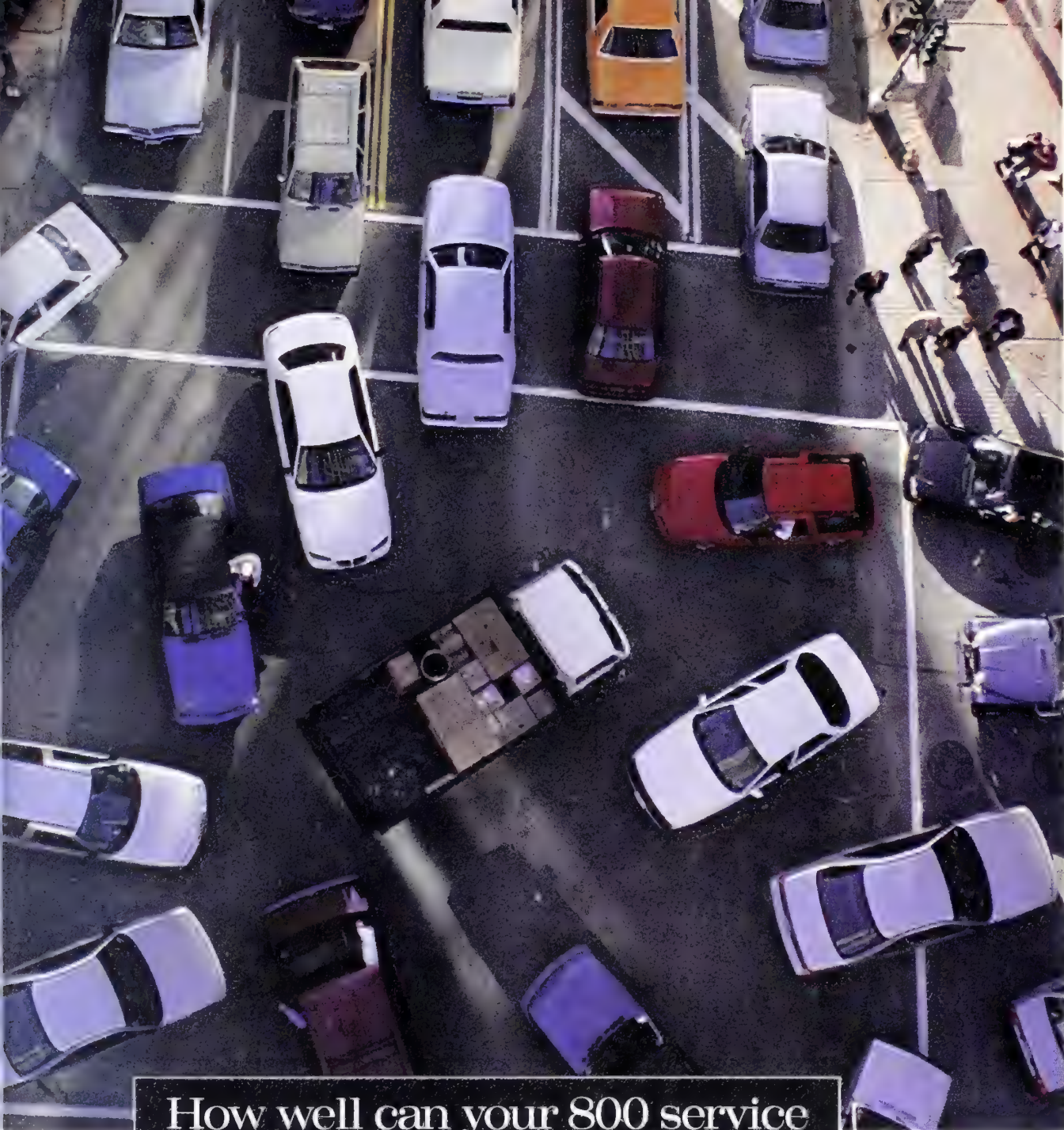
SHRINKING GIANT

The remaking of Korea Inc. is gaining steam. Samsung Group, Korea's No. 2 group, is reducing the number of its companies from a high of 55 in 1987 to 34. Samsung's move to sell 10 units and merge four follows the decision of Hyundai Corp. founder Chung Ju Yung to streamline his group, Korea's largest. Samsung is aiming partly to appease President Kim Young Sam, who wants to rein in the *chaebol*.

But Samsung Chairman Lee Kun Hee also wants to zero in on electronics, machinery, and chemicals.

SUGAR SHOCK

It doesn't seem possible for Cuba's rock-bottom economy to sink any lower, but officials say the island may be unable to fulfill sugar contracts with clients. Sugar output this season could be the lowest since 1963, down to 7 million tons to 4.2 million tons. Some analysts suspect Cuba's Communists of playing up delays and problems to boost prices. On the new world spot-market prices rose 6.5% to 11¢ per pound. The higher price should help offset the falloff, earning Cuba \$1 billion, vs. \$1.2 billion a year. It may not look like much, but in Cuba these days, every penny counts.



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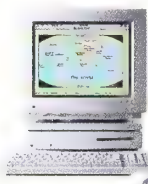
THE SAHARA DESERT AND THE ENVIRONMENT THAT SHAPED IT.

Looking at the video clip to the right, it's hard to imagine that this vandy desert area was once a lush green grassland. 6,000 years ago, giraffes and elephants roamed the plain, and cattle grazed upon the vegetation that grew here. At one time in fact, the entire Sahara region, located in North Africa, looked very similar to the green, modern day southern African plain we're used to seeing. Over the centuries, however, changes in climate have caused a significant change in the appearance of the Sahara. One of the main



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A p p l e L e a r n i n g S o l u t i o n s

WHAT'S NEXT, GRUNGE BATHROBES?

Brooks Brothers' hipper style seems to be doing the trick

For their 17th wedding anniversary last year, Hillary Rodham Clinton gave her husband a \$395 jacket from Brooks Brothers. The President likes it so much that he often wears it at official events. Of course, gray flannel suits and oxford shirts by Brooks have clothed important men for decades, from FDR to Fred Astaire. Clinton, however, usually favors a different look. And his beloved present from Brooks is a chocolate-brown suede bomber jacket.

Elvis in the Oval Office is one thing, but bomber jackets at the temple of the sack suit? Welcome to the new-look Brooks. The 175-year-old clothier, acquired in 1988 from Campeau Corp. by British retailing giant Marks & Spencer PLC for \$750 million, has been trying ever since to update its image. To reach more and younger customers, Marks & Spencer is emphasizing sportswear, expanding its women's line, and redesigning its displays. "We can't run our business on a 55-year-old man who wears a three-button Brooks Brothers suit and only comes in twice a year," says Sir Richard Greenbury, chairman of Marks & Spencer.

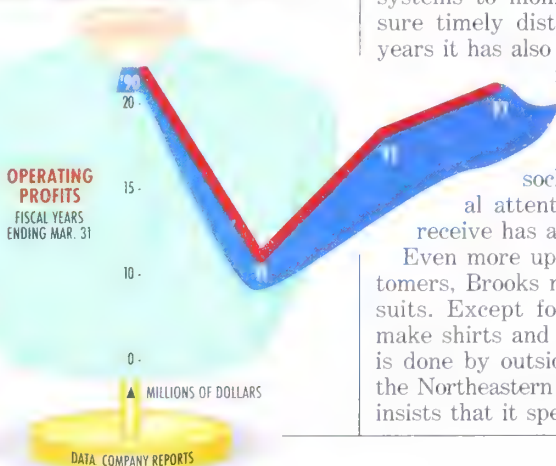
"GUSSY UP." Brooks's efforts have paid off. Even in a dismal retailing environment, it has made money—although profits plunged as low as \$11 million in 1991. For the fiscal year ending Mar. 31, operating profits rose 16%, to \$21.1 million, on a sales gain of 8%, to \$338 million.

Brooks contributes only 3.4% of Marks & Spencer's total revenues, but the mass merchant has great expectations for its protégé. Brooks President and Chief Executive Officer William V. Roberti is formulating a strategy for opening stores in Britain by 1994 and in Con-



tinental Europe by the following year. Brooks currently operates in 54 locations in the U.S. and 44 in Japan. Meanwhile, Marks is expanding the chain in the U.S. The company plans to open three more Brooks stores by yearend

BROOKS'S NEW LOOK BRINGS BACK PROFITS



and add 10 factory outlets to the existing 12.

Factory outlets, catalogs, and boutiques are among the ways Brooks is trying to get its wares to bigger crowds. And even in its conventional stores, Brooks hopes to attract the next generation with a different merchandise mix. At \$38 a pair share space with \$175 trousers. Boxer shorts, once discarded in drawers, now lie blatant-

the open. T-shirts, golf shirts, priced \$38 to \$52, hang to the traditional ton-downs. Brooks mix-and-match Women's robe Collection of suits in the \$295-range. And at the ship Madison Avenue

store, women's clothing, once relegated to a corner at the back of the shop, is being expanded to occupy at least an entire floor. The company hopes women's wear—mostly suits and blouses geared to professionals—will account for 20% of sales this year, up from 14% in 1991. "Brooks has made heroic efforts to gussy up its grand old man's clothing and is attempting to get into the 1990s," says Alan

stein, a New York retail consultant.

To be sure, some of the changes annoy traditional Brooks Brothers customers—and bear out the dire predictions of critics who thought the pairing of a Mart-style parent with an old-guard dandy was a bad idea to begin with. For example, to cut Brooks' costs, Marks & Spencer installed computer systems to monitor inventory and ensure timely distribution, but over the years it has also drastically reduced

the number of floor personnel. So, while the store may always have lots of bobby socks in stock, the personal attention customers used to receive has all but disappeared.

Even more upsetting to veteran customers, Brooks no longer sews its suits. Except for three factories that make shirts and ties, all manufacturing is done by outside suppliers, mostly in the Northeastern U.S. Although Brooks insists that it specifies materials and

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Marketing

spects all final samples before mass production, many customers think quality has fallen off. Hesh Wiener, president of publishing firm Technology News America and a Brooks Brothers customer for 20 years, recently wrote directly to Sir Richard, complaining that he couldn't find a sales clerk without smiling and that suspender buttons ordered for a pair of trousers were sewed on. "The store is a disgrace," Wiener's letter began. "Please do something about it."

HAPPY ENDING? Brooks's earnings around notwithstanding, some retailers think Marks & Spencer paid much for the struggling clothier years ago and remain skeptical of its performance. Marks was widely criticized for paying more than two times sales, when InvestCorp got Saks Dayton Hudson got Marshall Fields multiple of one. "Brooks is still not a client reward for the management and money spent on it," says Greg Grodzki, senior analyst at Moody's Investors Service Inc. in London. Other retailers believe Marks & Spencer may yet win a relatively happy ending. "Marks can't justify the price it paid for Brooks but what it can do is make the investment look better," says Howard Davidowitz, chairman of Davidowitz & Associates Inc., a retail consulting firm.

Executives on both sides of the Atlantic stand by their strategy. Sir Richard thinks Brooks can keep most of its customers while making its merchandise more appealing—and affordable—to a younger clientele. "We are not trying to change Brooks into a Marks & Spencer," he says. "There is an enormous amount of cross-fertilization between the two companies." Roberti, who joined Brooks from Zale Corp. in 1987 and led a younger management team in organizing Brooks, sees no contradiction between making the clothier more customer-friendly and keeping its conservative identity alive.

Indeed, Brooks's next hurdle may be getting its message across, to old and new customers alike. "We have a real communications problem in retail," admits Paul P. D. Smith, executive director of Marks & Spencer North American operations. While Roberti thinks Brooks should begin explaining itself through advertising, the parent company would rather put cash into opening more stores and broadening the merchandise further than spending money on ads. Maybe having a satisfied customer in the new-generation White House is all the advertisement Brooks could want.

By Sunita Wadekar Bhargava
New York

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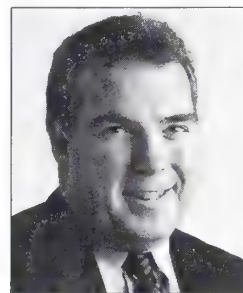
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Keeping its edge in turbine technology is paying off handsomely

Nowadays, though, GE's power division is no corporate also-ran. Thanks to its mastery of new technology, especially its natural-gas-fired turbine, GE Power Systems has been win-

DATA: COMPANY REPORTS,
BUSINESS WEEK, SHEARSON
LEHMAN BROTHERS INC.

That success abroad is helping to power up earnings at GE's power unit. Analyst Robert T. Cornell at Shearson Lehman Brothers Inc. estimates that revenues could climb 14% this year, to \$7.3 billion. Earnings could rise by 23%, to \$1.3 billion, or 18% of GE's combined operating profits of \$7.3 billion. True, that's shy of the 27% share of profits the power business

GE continues to focus much of its effort overseas. No wonder: Demand for electricity in the U.S. is expected to grow less than 2% a year in the 1990s. By comparison, forecasters see an annual 4% gain in Latin America. And the fast-growing Pacific Rim, where electricity demand could top 6%. To position itself better abroad, GE is licensing its technology to other companies to assemble turbines from kits made in the U.S. Japan's

Through a joint venture, GE is providing turbines for a coal-fired complex being built at Taichung. GE is one of several bidders for a nuclear-reactor complex at the utility's Lungmen site.

tomo Corp., for instance, exports turbines to Indonesia.

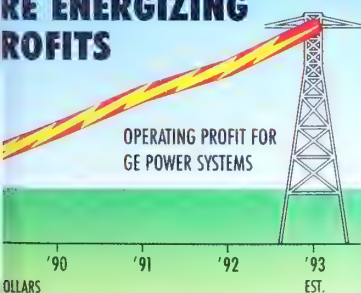
en so, Genever-Watling admits GE be pressed to maintain its fast th: Competitors are already closing. Switzerland's ABB Asea Brown (Holding) Ltd., for one, recently duced a gas turbine that competes ly with GE's. "We are very, very etitive in the niche position we play eclares Alfred W. Morris, a senior resident in ABB's electric utility di. And Westinghouse Electric Corp., historic competitor, is investing \$25 million in joint ventures in Czech Republic to modernize decay-nuclear and fossil-fuel power plants.

ACTIVITY GOSPEL. GE isn't standing Genever-Watling, 48, a British-born veteran who took over the power on in 1989, wants to expand GE's ar power business. In the post-e Mile Island era, U.S. utilities no big nuclear plans. But the busi-is booming overseas. GE already contract with Tokyo Electric to y an advanced boiling-water nuke. e company has also taken a sec-book at its manufacturing techniques. as spent \$1 billion since 1989 to e the capacity of its turbine plant reenville, S.C. It's also preaching roductivity gospel to workers at enerator factory in Schenectady. And GE is trying harder to time its facturing activities to the flow of orders and so cut the cost of wareng huge inventories. Nowadays, GE over its 1.25 billion inventory imes a year, double the rate of ears ago. The goal is 10 times by Why? Doubling the pace of turn-yields close to \$100 million a year led operating profit.

at's not the way they did it in the lays. Power generation was as y as an electric current when GE got into it 100 years ago. Geneverng knows that he has to keep inno- to maintain GE's leadership in the ly competitive global power busi- After all, he wants to keep those rassing profits coming.

Tim Smart in Schenectady, N.Y., Hiromi Uchida in Tokyo and Ste-Baker in Pittsburgh

RE ENERGIZING PROFITS



STRATEGIES

THRILLS AND CHILLS AT DISNEY

Michael Eisner's risky strategy: Build still more theme parks

It wasn't too long ago that Walt Disney Co. was a theme-park operator that dabbled—none too successfully—in movies. But then, Michael D. Eisner and his Team Disney transformed the company into an \$8 billion entertainment powerhouse, fueled largely by such box-office hits as *Pretty Woman*, *Beauty and the Beast*, and *Aladdin*. Measured against that Hollywood magic, theme park business has recently been a laggard—and the year-old Euro Disneyland has been a downright disappointment. Burdened by heavy debt and drawing smaller crowds than expected, the park has saddled Disney with an estimated \$120 million in losses since it opened outside Paris in April, 1992.

Still, Disney's chief executive is hardly giving up on theme parks. Eisner is planning a multibillion-dollar strategy to reinvigorate the lagging business with new attractions and even new theme parks. At its flagship Disneyland in Anaheim, Calif., the company wants to build a \$3 billion WESTCOT Center, similar to the EPCOT Center near Disney World in Orlando. Eisner says the company will announce a fourth park in Orlando, perhaps by yearend, but won't disclose details. Overseas, Disney wants to build a second park in Tokyo and, surprisingly, another near Paris (table).

Eisner believes it's vital to re-energize the theme parks, which have proven critical in promoting films and licensed merchandise. "Theme parks have always been the backbone of this company," says Eisner. Indeed, though EuroDisney has drawn far fewer visitors than expected, it has been a powerful marketing tool. Last year, Disney sold \$2.7 billion in consumer merchandise—from Mickey Mouse dolls to sing-along videotapes—in Europe. That's up 68% from 1990 sales.

And in turn, Disney's treasure trove of animated characters from past films—and its studios' dazzling record of creat-

ing new celluloid superstars—gives its theme parks an advantage no competitor can hope to match. Only Disney, after all, has that seemingly endless stream of beloved mice and mermaids on which to base new rides and attractions.

Eisner's planned building spree will be expensive. Although partners will pay for the Tokyo and Paris parks, the two planned U.S. additions could cost at least \$5 billion and force the company to add unprece-



ded amounts of new debt. What's more, some analysts question whether there's room for a new crop of Disney parks. Rivals such as Time Warner Inc. and Paramount Communications Inc. have plunged into theme parks. And in Las Vegas, there's a slew of new family-style casinos—complete with kiddie parks—being built by MGM Grand, Mirage Resorts, and Circus Circus Enterprises.

The competition is fierce. Time Warner recently launched a nationwide ad blitz, claiming that its seven Six Flags amusement parks are more affordable and closer to home than Disney's two U.S. complexes. The campaign so infuriated Eisner that he pulled Disney ads from many of Time Warner's magazines.

MORE MICKEYS. Despite the risks, Disney is eager to put some zip-a-dee-doo-dah back into its theme parks. They generated 70% of Disney's operating income as recently as 1987, but that share now is down to one-third. With a weak economy keeping travelers at home, growth

The Corporation

at the parks is lagging behind Disney's film and consumer-products units. Cost controls have helped increase theme-park earnings by 48% in the first-half of 1993, to \$306 million, on a revenue gain of 9%, to \$1.5 billion. But that's well behind the \$358 million in operating profits generated in the first half of 1990. And average attendance might grow at less than 3% a year through 1997, according to Goldman, Sachs & Co.

To do better, Eisner is pursuing a standard Disney strategy: Build new attractions, and they will come. Disney last year added Mickey's Toontown to its Anaheim park. The \$100 million cartoon-land features talking manhole covers and dancing dishes. And in France, Disney is rushing to build \$100 million worth of new rides, including such old Disney favorites as Space Mountain.

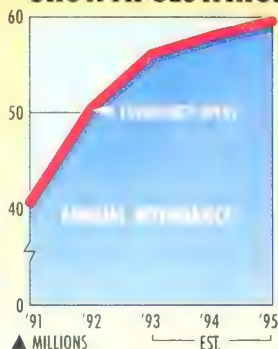
WATER POWER. But the big payoff may lie in new parks. In France, Disney wants to build an entirely new theme park, modeled after Orlando's MGM-Disney studio tour. The park, which would be located next to Euro Disneyland, could add \$102 million in earnings in its first year of operations, predicts Merrill Lynch Capital Markets analyst Harold L. Vogel. Likewise, in Tokyo, Disney is betting that a new maritime theme park would reverse last year's 2% decline in attendance at Tokyo Disneyland, which came after seven years of record increases. DisneySea would feature a variety of rides tied to nautical heroes. Disney still has to convince Oriental Land Co., which owns the Japanese park, to approve.

Closer to home, Disney is betting that a new park will help attendance at Disneyland, which last year slipped slightly to 12 million. Disney brass believe they can enhance Disneyland's appeal with a \$3 billion WESTCOT Center that would be built on 470 acres in Anaheim.

Disney will have to push hard to get all these parks up and running in the next seven years. French officials are still exploring the impact a second park would have on noise, traffic, and air quality. To overcome similar environmental concerns in Anaheim, the company has already made 225 structural changes to its plans for WESTCOT, including topping a parking garage with planters to enhance its aesthetics.

WESTCOT faces another challenge: Disney wants federal, state, and local gov-

WITH THEME-PARK GROWTH SLOWING...



*DATA FOR TOKYO DISNEYLAND NOT AVAILABLE

...DISNEY PLANS MORE ATTRACTIONS

U.S. Disney wants to build a \$3 billion WESTCOT Center, similar to EPCOT, at Disneyland in Anaheim. Park scheduled to open by 1998.

FRANCE Plans to add a Disney-MGM Studios theme park to EuroDisney park by 1997. Project could cost EuroDisney \$1.8 billion.

JAPAN To boost attendance at Tokyo Disneyland, Disney wants to add a \$2 billion nautical theme park to open in 1998.

DATA: COMPANY REPORTS; MERRILL LYNCH & CO.; GOLDMAN, SACHS & CO.; BW

ernments to kick in up to \$800 million to expand roads and make other infrastructure improvements. Anaheim has offered to issue \$150 million in municipal bonds, but California and the feds have been slow to come up with their share. Still, a compromise seems likely. The Disney project would generate an estimated 28,000 new jobs and some \$2.4 billion for the hard-pressed Southern California economy.

results it wants," he says.

Such talk isn't dissuading Eisner. In spite of the competition, Disney's thinks there's enough business around. After all, the baby boomers grew up on Disney and are still in childbearing years. And in the theme park game, Disney's name is still loud.

By Ronald Grover in Los Angeles
Stewart Toy in Paris, Gail DeGeorgio in Miami, and Robert Neff in Tokyo

TRANSPORTATION

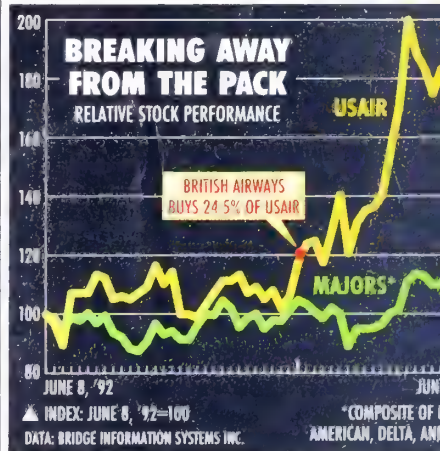
USAIR: THIS 'DOG' MAY BE HAVING ITS DAY

The linkup with BA is working—and Wall Street is impressed

What a difference 12 months can make. This time last year, USAir Inc. was what people on Wall Street like to label "a dog." Larger airlines' forays into foreign markets had left the carrier trailing in the dust. Its operating costs were among the industry's highest. In the domestic arena, a devastating 50% industrywide fare war threatened to deplete its dwindling cash reserves. No wonder USAir's stock hovered around 12—close to a 10-year low. But today, just five months after British Airways PLC bought into it, the onetime dog has become a darling. Investors are so enamored that when USAir sold equity in May, the offering was 15% oversubscribed—at nearly double its share price of a year ago. "That says a lot about USAir and the financial community's expectations," says USAir Chief Executive Seth E. Schofield.

Those expectations are mighty.

Investors see a whole new airline days when they look at USAir. For Allegheny Airlines—Agony Airlines—USAir had a reputation for mediocre service that only worsened a series of ill-executed acquisitions. Higher costs than many competitors. Air's strongest point was its mor-



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status in a number of East Coast markets. USAir is still the country's sixth-largest carrier, as measured by revenues. But that could change dramatically, as the airline begins exploiting its new link with BA. Says Hence Orme, an analyst at NatWest Securities Inc.: "We think they have a very good chance of becoming the fourth American megacARRIER" after American, United, and Delta.

Success for USAir is still just an opportunity. True, British Airways is the

divergent pay scales and seniority contributed to baggage and on-time problems. The BA-USAir linkup will undoubtedly raise hackles as the two carriers seek to integrate. The June 4 work action by BA employees in Britain is only a taste of possible troubles ahead, and BA and USAir will have to scramble to head off other problems before they occur.

The key to making things work lies in "code-sharing." By linking its flights with BA's in computer reservations systems

coordinate the two carriers' syst

But the challenge goes a long way beyond getting flights to link up. real difficulties will be on the home side. BA, the self-anointed "world's favorite airline," is known around the globe for its high level of customer service. USAir is not. So it doesn't take an airline analyst to understand that Lagow's pipeline to work, the U.S. line must raise its standards to that of the British carrier. USAir says it is already sending some of its pilots to flight attendants across the ocean to train with BA and the two airlines have formed joint task forces to study and implement better procedures. The process of integration will take many months.

HOPEFUL SIGNS. USAir and BA have come up with a slogan: "Two airlines—one vision." And USAir is preparing to launch a TV ad blitz stressing the carrier's fleet and increased number of flights. In some respects, the linkup has already been a big boon for travelers. BA's \$100 million cash infusion ensures flight on many key parts of the country that stood to lose service if USAir stopped flying. Overseas, USAir will offer direct connections to destinations throughout Europe, the Mideast, Africa, and Asia.

For investors, there are some signs of hope. Traffic was up 12.5% in April last year, and USAir's ranking with

customers improved from last year ago. The airline posted an operating profit for the first quarter of 1993—\$2 million—the first time it made money that period in the years. Money from the stock sale combined with cash on hand gives the airline a comforting million kitty. And the Schofield won't put a number on it, the chief

man clearly indicates he expects the line to turn a profit for the year.

USAir's competitors aren't sitting back and waiting. The Big Three failed earlier efforts to block USAir and from code-sharing. So they're using the BA-USAir deal to try to pry open international markets for themselves. The carriers have been lobbying Washington to push the British for a liberal air treaty that would put them on equal footing with the BA-USAir combination. Schofield says he's not worried. "The combination of USAir and BA makes a very strong competitor," he says. As USAir's rivals are concerned, the fight has only just begun.

By Keith L. Alexander in Pittsburgh and Seth Payne in Arlington, Va.



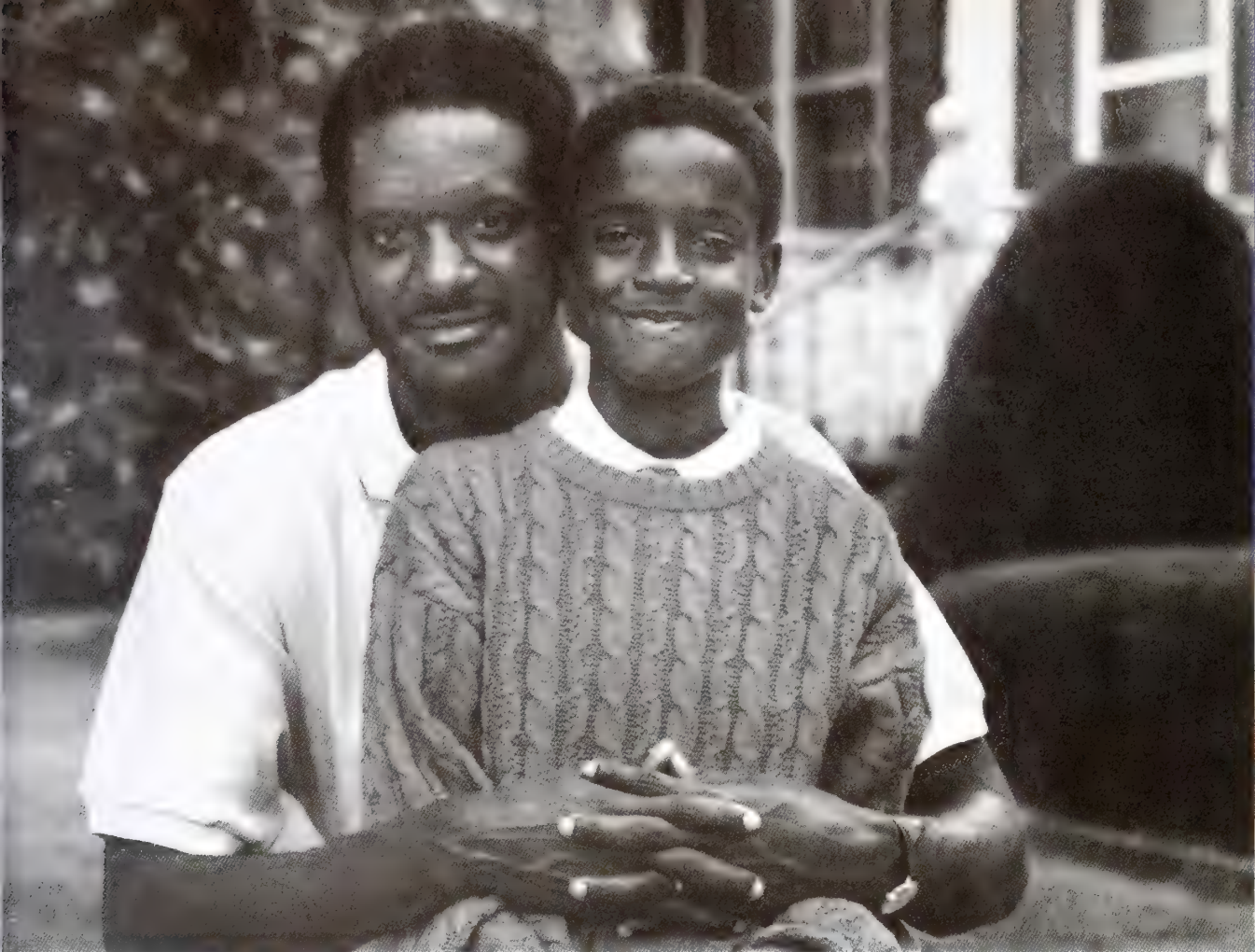
**CEO SCHOFIELD
CLEARLY EXPECTS
USAIR TO TURN
A PROFIT FOR
THIS YEAR**

world's largest global airline, and by linking with it, USAir can provide U.S. travelers access to that huge system. But the two must engage in some skillful maneuvering to make that happen. "There's been an awful lot of hype about this agreement and what it means to both parties," says Ed Scerbo, an analyst at industry consultant Avitas Inc. "But the only thing that's happened so far is that some cash has changed hands. There are some lofty goals to be met."

And some unimpressive precedents to beat. KLM-Royal Dutch Airlines' \$400 million investment in Northwest Airlines Inc. four years ago has been a tremendous profit-drain for KLM and has yielded little in synergies. Scandinavian Airlines Systems lost nearly \$100 million on its equity investment in Continental Airlines Inc. And USAir's own acquisitions of Pacific Southwest Airlines in 1987 and Piedmont Airlines in 1989 show that it's far from easy to mesh different airline systems. Worker resentment over

and arranging schedules so that flights hook up, USAir can offer U.S. passengers connections to an enormous chunk of the international market, something few of its competitors can match. And Schofield is quick to point out that two-thirds of U.S. transatlantic traffic to Europe comes from east of the Mississippi, where USAir is strong. USAir plans to draw passengers from Northern and Southeastern cities, many of which do not have any direct international service now, and funnel them into key points served by BA overseas.

The reverse will work for passengers arriving from Europe. Already the two have linking flights at Cleveland, Rochester, N.Y., and Syracuse, N.Y., and the plan is to increase that to 38 cities by yearend, 75 or 80 towns and cities by the end of 1995. "We want to make this a truly seamless pipeline," says USAir's W. Thomas Lagow, whose job is to



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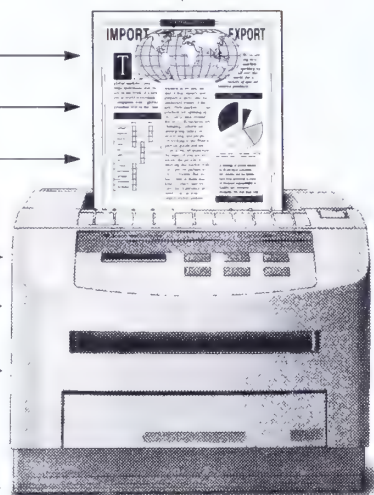
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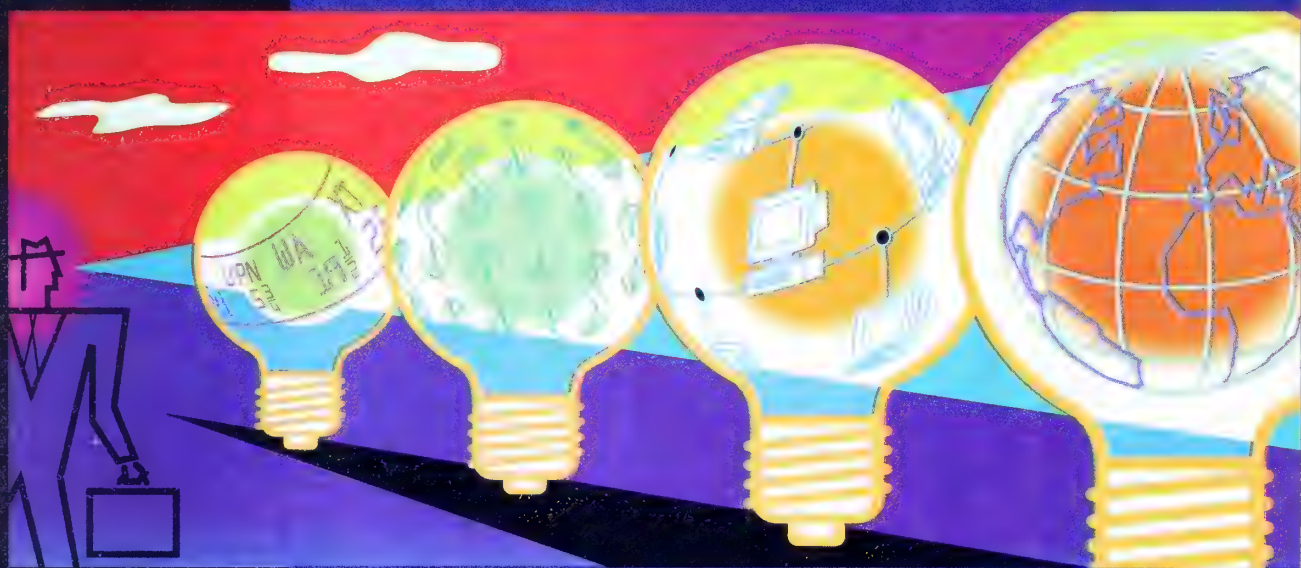
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rt Ideas for Small Business

Mike Finn is pleased. He thinks he's finally found a site in the Chicago area that could become the 11th store for Minneapolis Ragstock, a chain of clothing stores appealing to people, especially college students.

Finn, formerly a buyer with the Target Division of the western retailing giant Dayton-Hudson, joined Ragstock as a vice-president in 1978, and then, working closely with founder and president Howard Weisskopf, the company's Chicago division has grown from 3 stores to 10 by offering a combination of inexpensive new clothes and garments appealing to teenagers and college students. Now they're preparing to move to Chicago, their biggest market yet.

Finn knows there's no shortage of major retailers in the Chicago metropolitan area. Everybody from J. Jill Field's to the Gap is well-represented," he admits. But he says, "We think we have our own niche." Finn and Weisskopf are confident that Ragstock stores' unique blend of merchandise and service will play well in other Midwestern cities. He adds that he's "personally excited about trying to bring this strategy in a new setting."

In the decades in which the conventional wisdom was that big business was taking over the economy, it has become increasingly clear that smaller companies are holding their own and then some," says

Finn. More than 36 million Americans work for companies with fewer than 100 employees. Small and midsize companies account for half the total value added by U.S. manufacturing, according to the National Coalition for Advanced Manufacturing. Companies with 500 or fewer employees created 3.2 million new jobs between 1988 and 1990, while big businesses had a net loss of 500,000 jobs during the same period.

Then too, last year, all three winners of the prestigious Malcolm Baldrige National Quality Award were smaller companies: Marlow Industries, Solelectron, and Zyec. This year, a smaller company called Granite Rock Co. was another Baldrige winner. It's no wonder that President Clinton has called small business "the backbone of America" and has said, "We have to look for ways to try to help spur small business and medium-sized business job growth."

His Administration has proposed a permanent investment tax credit for very small companies that buy equipment as well as a 50% capital gains tax exclusion for profits on stocks in certain small businesses. The Administration would also leave the corporate tax rate unchanged for small companies while raising it for large ones. And in March, the Administration said it would ease loan documentation requirements for banks in a way which would make it easier to lend to small businesses.

A century ago, the forces of industrialization seemed to suggest small businesses would all be devoured by corporate giants. But more recently, says Ragstock President Howard Weisskopf, "Several fundamental forces have come together to strengthen the ability of smaller businesses to compete with big companies." One of the most important, he says, has been the computer which has extended the scope and breadth of the information smaller companies can manage. This has widened their ability to make an impact on the market.

According to Peter Gross, founder and president of Aeromix Systems, Inc., "Manufacturing methods have not necessarily changed in many industries so much as the basic ways in which you run a company. For example, the ways in which you



"Technology has changed the types of people you need to run a smaller company. We don't have any secretaries."

Peter Gross
Founder and President
Aeromix Systems, Inc.



Weisskopf and Mike Finn, of Minneapolis Ragstock: "We think we have our niche."



Rob Lewis, of Alpine Map Company, shifts gears quickly to adapt to market demands.

Alpine Map Co. didn't get very far selling maps, but they discerned growing demand for high-quality outdoors equipment.

gather information and analyze it and look at it have been transformed. There is a million times more information available now, and you can monitor things that you never looked at before."

At Aeromix, which produces aeration equipment for water and waste water treatment, Gross says, "Technology has changed the types of people you need to run a smaller company. We don't have any secretaries. Even though we're an engineering type of company, we don't have any drafting people. But because of computers, everyone here has access to everything; they can each be a one-person company, and it changes the type of people you need in managing the company."

Increasingly Sophisticated Management

Technology has been put in service by an increasingly sophisticated corps of managers at smaller companies. "There's no question the quality of small company management has improved as a result of what went on in the 1980s in large businesses," says James Pierpont, an executive vice-president at Dain Bosworth, the Minneapolis-based investment banking firm. "As

the 1980s progressed," Pierpont notes, the wave of mergers and acquisitions meant that "a lot of management got bought up, or fought hard and lost, and there were many good management people going into small business." Meanwhile, adds, "A lot of well-trained management was pumped out of business schools for the last decade and many of those people have also ended up in small companies."

That's not to say that smaller companies haven't had plenty of home-grown talent. In the jack-of-all-trades requirements of running smaller companies builds very adaptable managers. Look at Rob Lewis. Two decades ago, he and a fellow college professor thought they would take advantage of their aerial photography and mapping skills by forming Alpine Map Co. The Boulder, Colo.-venture didn't get very far selling maps. Lewis says they discerned growing demand for high-quality outdoors equipment. The company, still called Alpine Map, but since it began selling its Madden line of equipment for climbers and bicyclists, it's been on a Rocky Mountain high.

"Management is especially crucial in small businesses," notes James Sullivan of Sullivan Associates, a consulting firm which specializes in advising small companies. And, he says, the



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mix of savvy entrepreneurs, big company veterans, and trained MBAs is making small business a more sophisticated competitor than ever.

The Crucial Role of Technology

More than anything, however, it is technological change that is altering the competitiveness of small business. For years, says Peter Gross of Aeromix, "Technology typically permitted big companies to achieve economies of scale that small companies couldn't match. Now low cost computer technology is leveling the playing field."

Virtually any business big enough to support an individual can afford a desktop computer that can greatly increase efficiency in managing the business. Hook the computer up to a \$200 printer — or an \$800 laser printer if you want to be fancy — plus a \$15 data base program, and a company can mount a sophisticated direct mail campaign. The same computer can manage the company's books, payroll, projects, and correspondence. "The explosion in data processing capability has clearly helped small business compete," says Gross.

William Lange can testify to that. In the 1960s, he was running a graphic arts business and recalls, "To serve our clients, we had to have lots of offices

because you couldn't rely on the electronic transfer of information." His clients were largely in the building industry, he says, and in the 1974 real estate crunch, he had to retrench. "I was stuck with a lot of overhead and ended up selling the business," he says.

That experience prompted Lange to capitalize on new technology in organizing his current business. Lange is president and CEO of the LFC group of companies, headquartered in Newport Beach, Calif., which auctions off properties on behalf of government agencies, corporations, and financial institutions. Given the distressed properties piling up on the doorsteps of such clients as the Resolution Trust Co. and the Federal Deposit Insurance Corp. as well as mortgage lenders, Lange's company is pretty busy running

auctions all over the U.S. But, he says, "It's all centralized here in our office in Newport Beach." LFC's Senior Vice-President and Managing Information Systems Director Dennis Linthicum has developed software enabling LFC to manage the process of getting mandates to auction properties as well as marketing those properties up to the auction.

In competing for the right to auction government properties, Linthicum says, "It's pretty common today's world to have a data processing department, but where we go the extra mile is having 25 laptops in the field. A lot of our people work them fulltime, and we have constant communications. The beauty of it is that no one is ever out of the loop." Lange figures that his competitors have 70 sales people to be competitive with two dozen because of technology.

Once LFC wins a contract to auction government property, it places advertisements seeking to generate interest in the properties. Those who call the number reach LFC's headquarters and are given information, while LFC computers monitor the level and nature of the calls. "If the inquiries are outside historic patterns, we can alter the marketing to generate more interest," Lange says, "using statistical tracking to see if we're generating interest and if not, we may change the marketing strategy." That data comes to us twice a day from all of our outlying sites, and we fax or E-mail all of the results to our people."

He adds, "In addition, during a specific auction campaign, we track the buyers' profiles, so we know more about the people and, therefore, have a better idea of what the potential is for that auction."

"Because of all this data," Lange says, "our auctions are very predictable. Recently I projected that we would get 76% of the previous asking prices and we did 75.13%. Most of my competitors couldn't predict within 10%, and that's one reason we're getting more business. We help take the risk out of it for the seller." And by keeping the bricks and mortar down and relying on technology, LFC is taking a lot of the risks out of its business as well. Says Lange, "We have a real team, and they get on the plane and go to the auction site." But beyond that, technology enables LFC to do a good job without leaving its headquarters on the old Irvine Ranch in Orange County, C

Hook the computer up to a \$200 printer — or an \$800 laser printer — plus a \$15 data base program, and a company can mount a sophisticated direct mail campaign.



many companies, even if technology affect the way they produce their goods or it still affects many aspects of their business. For example, dramatic declines in the cost of printers and copiers has made it possible to produce attractive brochures and documents in-house at low cost. This is not only helpful in preparing marketing materials, it also makes making technical information easier to read and comprehend.

Meanwhile, once orders arrive at many small businesses, advances in optical scanning equipment make it possible to enter the order electronically, speed up the production process, and generate the appropriate shipping instructions and labels. As a result, small companies need not fear being submerged in mountains of paper files; it's all in their computers.

Joel Barr, president and co-founder of Spices of the World, a Brooklyn-based distributor of spices and seasonings as well as the producer of Joelle's Pasta Sauce, frequently travels to trade shows to meet with the firm's 15,000 customers, which include retailers like Wal-Mart and Walgreens. When he goes, he has his Dell notebook, a fax machine, and a fax modem. In addition, he says, "I have a computer and a fax machine in my home and office, so I'm in business wherever I am." Barr's company, whose labor force rises from 50 to 100 during the busy Christmas season approaches, uses PCs plus a mainframe computer with 17 terminals. "Now we're looking into voice mail," Barr says, who founded the firm with a boyhood friend 20 years ago, adding, "We make a low-tech product but we market it in a high-tech way." The same is true at countless other small companies.

Changing Sources of Financing

The range of financing opportunities available to smaller companies is also changing, and it's critical. Consultant Sullivan says, "The main reason most small business start-ups fail is that they misjudge the amount of capital they need. When things get tight, they often have a hard time concentrating on the business work, and a lot of entrepre-



Consultant Jim Sullivan (left), a turnaround management expert, discusses curriculum with his partner Kip McGrath (right) at one of their ten Kip McGrath Education Centers.

neurs panic. Instead of trying to solve the problem, they say 'I'm running out of money; I've got to give up and get a job,' so they jump ship too soon."

Ragstock's Finn notes that "The small business financing picture has changed as the big banks have lost their biggest customers to the financial markets." Because big companies are meeting more of their financing needs by issuing short-term commercial paper and medium and long-term bonds, many commercial banks have refocused their lending on middle market and smaller companies.

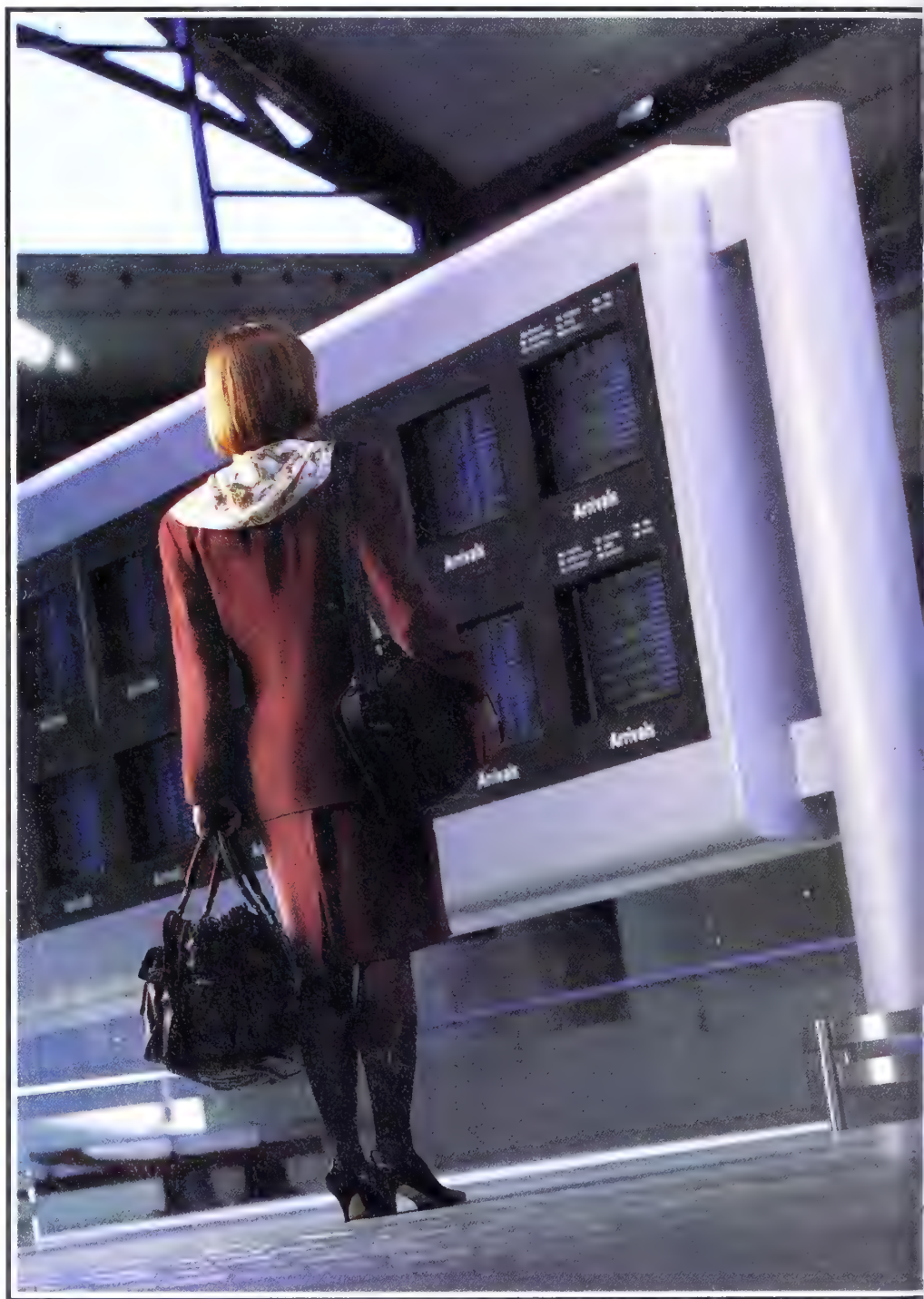
In addition, a number of banks have specifically chosen to focus on smaller companies. J. Mike Dunn, vice-president and director of marketing of Columbia Banking System of Bellevue, Wash., says, "Over the last five years, there have been more applications to form new banks than in the last 20 years, and a lot of that has to do with the fact that as the big banks get bigger, there is definitely a niche for smaller, community-owned banks."

Columbia was built on the ashes of a failed thrift institution, which was reenergized, and went on to buy a commercial bank. "Our business plans call for being a financial institution in the \$500 million to \$1 billion size," Dunn says. "We believe that's the optimum size to offer the services required and remain small enough to provide one-

"The small business financing picture has changed as the big banks have lost their biggest customers to the financial markets."

Mike Finn
Vice-President
Minneapolis Ragstock

WHY NOTEBOOK DESIGN AND AIRPORTS AS IT IS ABOUT



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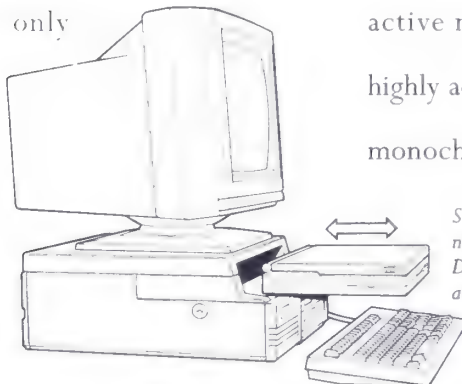
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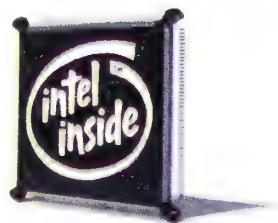
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done in differing
markets, not just
hot markets."**

Jim Pierpont
Executive
Vice-President
Dain Bosworth

on-one customer service, which is what's missing in all the mega-mergers that have occurred."

In serving smaller companies, Dunn says that "Instead of opening branches, we run messenger services between ourselves and our customers. We're developing remote PC banking that will allow many of our customers to do a lot of cash management from their PCs in their offices. We're trying to put products and services together to make it obsolete to come into the bank." Dunn says saving time is crucial for smaller companies, where executives are stretched thin.

Meanwhile, Richard A. Hanson, executive vice-president of Merrill Lynch Business Financial Services says, "We have an alternative to bank financing as part of our Working Capital Management Account." The WCMA is a central asset account that links a variety of cash management funds for excess cash with revolving credit ranging from \$200,000 to \$5 million. Merrill has about 105,000 of these accounts. Citibank's Citi One account offers small businesses a similarly integrated cash management and borrowing vehicle.

There are also a variety of commercial finance companies and asset-based lending alternatives open to smaller companies. Leasing used to be seen primarily as a way to acquire costly equipment, but small ticket leasing companies, like Eaton Financial, have open-ended lease agreements that make it possible for smaller companies to lease new equipment, like copying machines, as easily as putting it on a credit card.

And then there's the market for high yield

bonds a.k.a. junk bonds. The controversy over this market has overshadowed its very real achievement: It significantly increased the number of companies that could gain access to capital through the public sales of securities. Jim Pierpont of Dain Bosworth says, "The junk bond market is very active right now, even though not getting the press that it used to."

He adds that the market for non-investment grade private placements from smaller companies is also active, as is the market for initial public offerings of stock. "People used to talk about the IPO cycle," Pierpont says, adding, "The idea that there is a window that opens every five years." But now he says, "There is a more consistent appetite for IPOs because there are many more players and a much broader spectrum of investors."

Because financing is so critical for smaller companies, for many years public policy has sought to expand the flow of funds into this sector. The U.S. Small Business Administration has a variety of lending programs. So do several states. In Connecticut, for example, the state Development Authority's "preferred lending program" has formed partnership with major banks in the state to crank out a billion dollars in loans to businesses.

Rep. John LaFalce, a New York Democrat, is chairman of the House Small Business Committee, has been seeking to expand the flow of funds available to small companies by developing a secondary market in small business loans similar to the multi-billion dollar secondary market for home mortgages. Since 1986, investors have been able to buy securities backed by the government-guaranteed portion of SBA loans. In several years, Rep. LaFalce has proposed creating an entity called the Venture Enhancement and Loan Development Administration for Small Under-capitalized Enterprises — Velda Sue — to securitize and sell non-guaranteed loans.

There's now a broad array of financing mechanisms that permit small businesses to use their precious capital more effectively than ever before. It's not just the new instruments that are helping, but also the technology. Says Peter Gross, "I don't do anything fancy as far as borrowing, but we think we manage our finances pretty well using the computer for cash flow projections, things like that."



J. Mike Dunn (left) of Columbia Banking System, Inc.: "We're developing remote PC banking."

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The Expanding Range of Employee Benefits

Employee benefits is another area where technology has helped small business become more competitive. Once big business offered a smorgasbord of benefits which weren't available to smaller companies. Many small companies still have trouble paying for benefits, but if they want to offer them, they're available.

Joyce O'Connell, the personnel manager for the Acacia Division of Deanco Inc. in Fremont, Calif. says, "We feel we're able to offer a very competitive package of benefits because of dramatic increases in the range of benefit products available to smaller companies." Acacia, a distributor of electronics products, offers many of its 200 employees medical coverage that not only includes indemnification but also a Health Maintenance Organization, dental care, and vision care. It also offers short-term and long-term disability, an Employee Assistance Program for personal problems, including substance abuse, and a 401k plan.

Peter V. Kuhn, a principal in Innovative Benefit Plans in San Jose, Calif., says that the primary reason for the availability of these benefit products is computer technology. Says Kuhn, "The processing costs have come down so much that the providers — the insurance companies — are able to market cost-effective products that they couldn't dream of offering five years ago." At this point, Kuhn says, "If you had a firm with as few as 10 employees, I could not only offer medical insurance, I could offer a Health Maintenance Organization or a Preferred Provider Organization." He adds, "For a company with more than 25 employees, I could offer a number of dental plans."

As in the case of insurance, in retirement plans, Acacia's O'Connell notes, smaller businesses have acquired the tools to become more competitive in hiring and retaining employees. "A lot of companies are offering 401k and defined-contribution profit plans," she says, adding that major investment management and insurance firms are courting these plans as never before. That's not surprising considering the pension funds of firms with fewer than 1,000 employees have total assets of \$400 billion. And technology has made it

easier to administer smaller plans efficiently.

T. Rowe Price Associates is one of the investment management firms which has launched a small company initiative. According to Joseph Healy, a vice-president of T. Rowe Price, "We offer smaller companies a turnkey 401k product. The Century Plan plan is available for firms with anywhere from 300 employees down to two, and small companies offer everything the big companies have. The participants get no-load mutual funds with up to eight options; they get a toll



Peter V. Kuhn of Innovative Benefit Plans: "Small companies can provide benefits they couldn't dream of offering five years ago."

800 number to call so they can get account balances or ask questions; and they get a combined statement that lays out all of their investments in one statement."

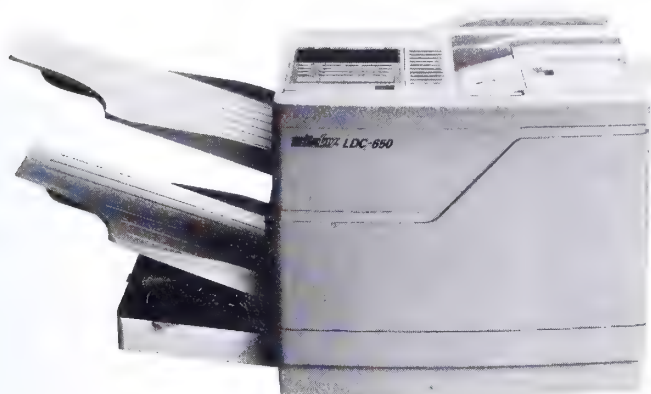
As for the company, Healy says, "They get state-of-the-art record-keeping, which facilitates plan compliance — and that's a concern at many small companies. We offer an IRS-approved prototype document, so you needn't go to outside counsel and pay fees to draw up a standardized document."

While employee benefits may be expensive, Acacia's O'Connell says, "We need to offer the benefits to be competitive." In industries where that's the case, computerization has reduced the costs of administering these benefits and has created a more level playing field in pursuing employees

"If you had a firm with as few as 10 employees, I could not only offer medical insurance, I could offer a Health Maintenance Organization or a Preferred Provider Organization."

**Peter V. Kuhn, CPA
Principal
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The Growing Role of Foreign Markets

The greatest barrier to exporting is a lack of information on how to do it.

Respondents to an Arthur Andersen & Co. survey

International business is another area where small business is expanding its role. Exporting used to be reserved for big companies, but rapid economic growth internationally is pulling more small companies abroad, while they are being pushed by competition and recession in their home markets. A survey of 6,000 U.S. manufacturers conducted last summer by Arthur Andersen & Co. found that only 5% of small businesses are involved in international trade. Respondents said that the greatest barrier to exporting was a lack of information on how to do it. Both the federal government and a number of state governments have sought to facilitate exporting.

For example, the U.S. Export-Import Bank's Working Capital Guarantee Program encourages lenders to make working capital loans to small and medium-sized companies with export potential. In addition, the SBA's Export Revolving Line of Credit Program provides short-term credit to smaller companies. SBA also runs an Export Trade Assistance Partnership to provide information and training to would-be exporters.

Meanwhile, states are increasingly helpful to small businesses seeking to export. The reason is clear. As Ohio State Senator Charles F. Horn said last year, "The future of our economic growth is going to depend largely on how successful medium and small-sized companies are in entering the

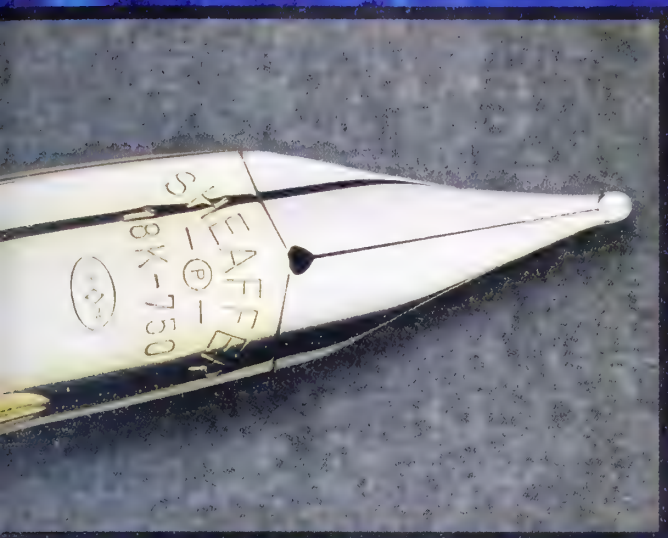
international marketplace." To encourage these efforts, Horn introduced a proposal to offer sales tax credits to those Ohio companies that increase their exports. The bill, which was part of a package of economic development incentives proposed by Governor George V. Voinovich, specified that Ohio companies that expanded their exports over the next eight years and increased their payroll or capital expenditures to do it, would receive a sales tax credit on increased profits.

In addition to government agencies, commercial banks are eager to provide information that will generate trade financing business. Bank of Boston even created a 35-minute videotape called "Basics of Exporting" to bring novice exporters up to speed. Besides the major U.S. banks, the hundreds of foreign banks with offices in the U.S. are also eager to provide advice and financing for those selling abroad.

Astute small companies are capitalizing on these opportunities. Look at Alpine Map Co. Rob Lewis says, "About 15 years ago, when we were very, very small, the state of Colorado helped us pay for a booth at an international marketing goods show in Munich, and it was successful for us. We made some sales and we just kept going back." Since then, foreign sales have grown to about 40% of total sales. Lewis says, "We're probably better known in Europe than here in the U.S."

Madden sells its wares directly to European firms without intermediaries. "We make extremely expensive gear," Lewis says, "and by selling directly, we can avoid some of the expense of distributors." However, another Colorado company, Spyder Active Sports, which makes skiwear, works with distributors in foreign countries. It typically picks one per country, and the distributor runs up retail outlets and markets the product. As a result, Spyder has gained representation in more than a dozen foreign countries.

Aeromix Systems has also used distributors to extend its reach into some 26 companies, and exporting now generates a third of the sales for this 6-year-old company. "In most cases we have these distributors — or they have found us — through trade shows or advertising," says G. "They're already involved in the same business we are. We provide them with guidelines and



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knowledge on how to market our equipment. We help them with marketing techniques that we've found useful or that other distributors have found useful. And they develop a system that's just right for their country." These distributors also make it possible for Aeromix, a company with

barely two dozen employees, to have sales in more than two dozen countries.

While big companies have roamed the world for decades, smaller companies have often felt they lacked the critical resources. But Gross says, "Advances in telecommunications have made it easy to keep in touch with foreign markets without expensive overseas staffs or offices. You can not only call customers and distributors cheaply, you can follow up with faxes of details, and plans and specifications, and you can ship products via overnight courier."

The New Sources of Continuity

Continuity is another area where the choices facing small businesses have expanded. Once questions of succession and continuity came down to whether the owners would sell out, transfer the business to their children, or just close up and move to Florida. Now there's much more to it.

Consultant James Sullivan says, "Most people who are running a business know that at some point in time they have to look for an exit strategy. And to make it work optimally, you've got to start many years before you execute it."

"What's simplest," says Jim Pierpont of Dain Bosworth, "is to go find somebody to sell the business to." He notes that "financial acquisitions are much less common today than operating acquisitions," which means the likeliest buyers "are either a competitor or one of your customers."

There's no shortage of business brokers, ranging from one-man-bands to the likes of Merrill Lynch. Merrill Lynch Business Financial Services has worked closely with many small businesses in arranging their sale of recapitalization.

Some people think selling shares to the public

is a good way for owners to cash out and ensure perpetuation of the company, but Dain Bosworth Pierpont says a public offering "generally only solves part of the problem. If you take it public, you're leaving, you better have someone better qualified than you to run the business because you're incurring some seller liabilities." According to Pierpont, "The public market is a fund raising market, not an ownership change mechanism. I don't advise my clients who are 70 years old and interested in selling to take it public. Rather, I advise selling the company as a whole to somebody."

When there are several owners who don't want to sell, there are now many ways to solve the problem. One of these is a leveraged recapitalization, in which some existing shareholders' shares are exchanged for either cash or a different form of security. The existing shareholders essentially sell the company to a new set of shareholders, which includes those of the original shareholders who still want a take in the company. The transaction is typically completed through the sale of senior or subordinated debt or the issuance of preferred stock. By structuring it as a nonrecourse offer, it limits the amount that has to be borrowed to finance the purchase.

ESOPs — employee stock ownership plans — are another alternative to selling the company. "ESOPs are an attractive alternative for small and medium-sized businesses," Sullivan says, but adds, "If you want an ESOP, you want to make sure you have a strong management team to run the company so you don't have to make good on your guarantee to the bank that has provided financing for the ESOP."

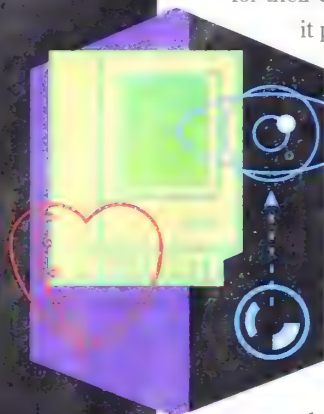
In questions of continuity, as in every other aspect of small business, Joel Barr of Spice Market says, "A growing number of the resources and alternatives once available only to big companies are now at the disposal of small companies."

Because of these changes, small businesses are tough competitors on more and more fronts. And there's one place where big business gets no competition — the satisfaction of running your own show. Says Barr, "At the end of the day, it's awfully nice to be able to see the results of your own efforts." ■

Text by David Glick, a New York-based writer

"At the end of the day, it's awfully nice to be able to see the results of your own efforts."

Joel Barr
President and
Co-founder
Spice Market



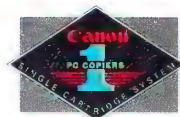


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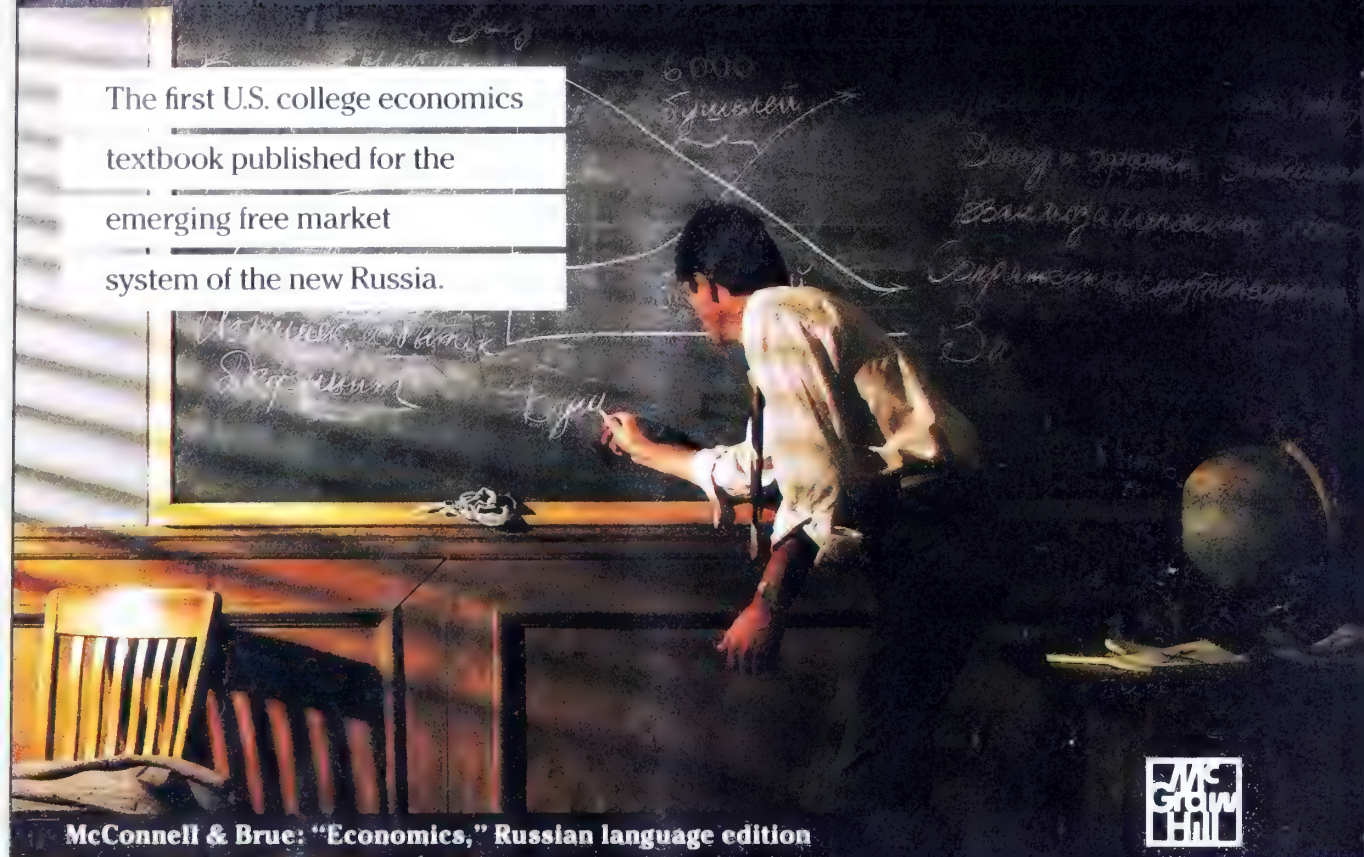


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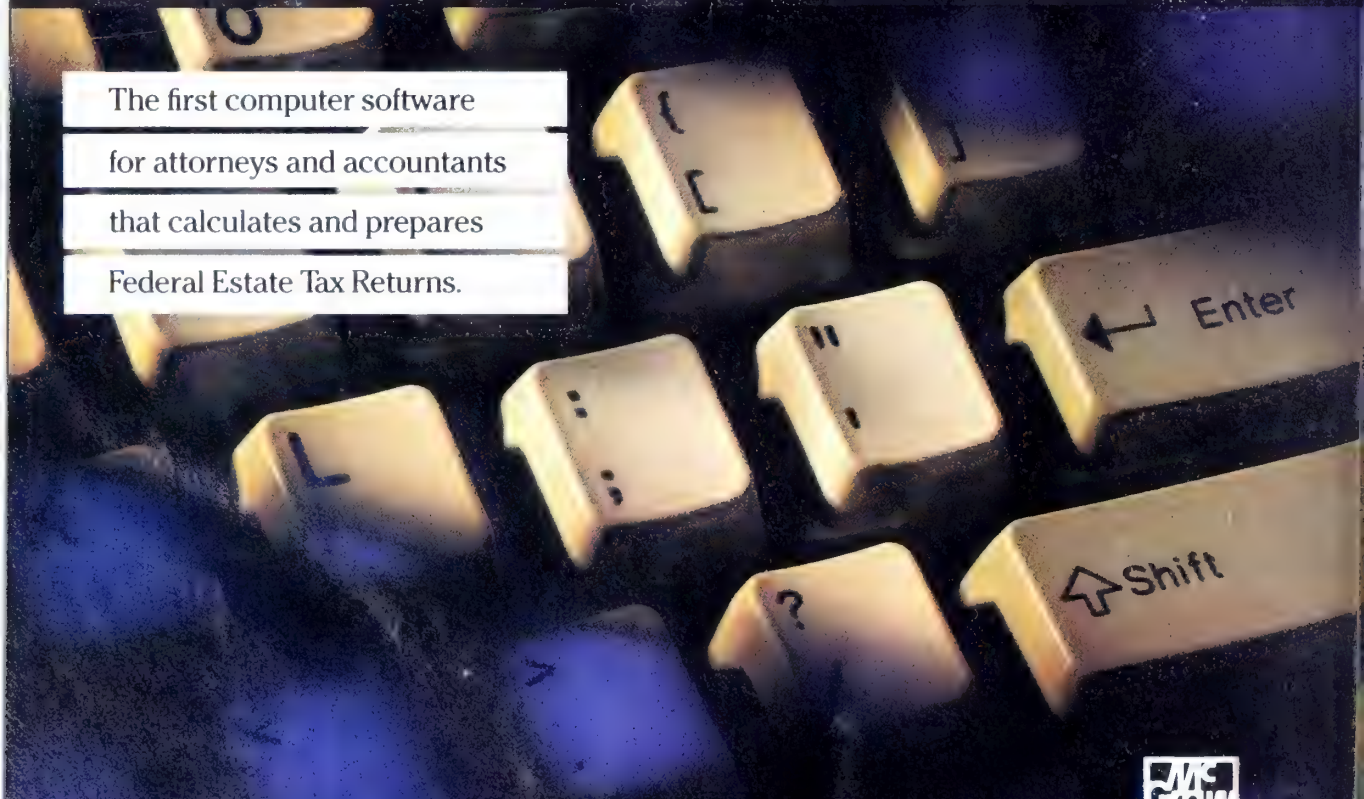
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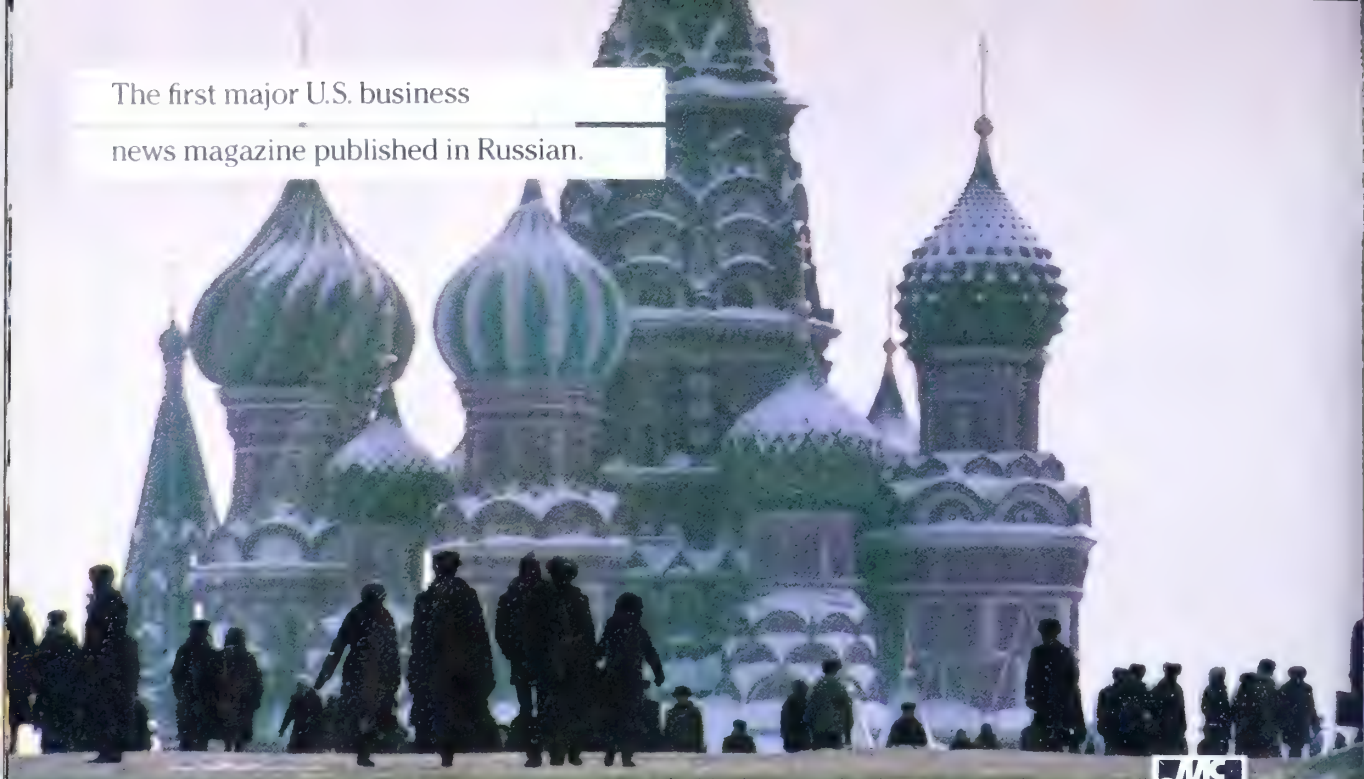
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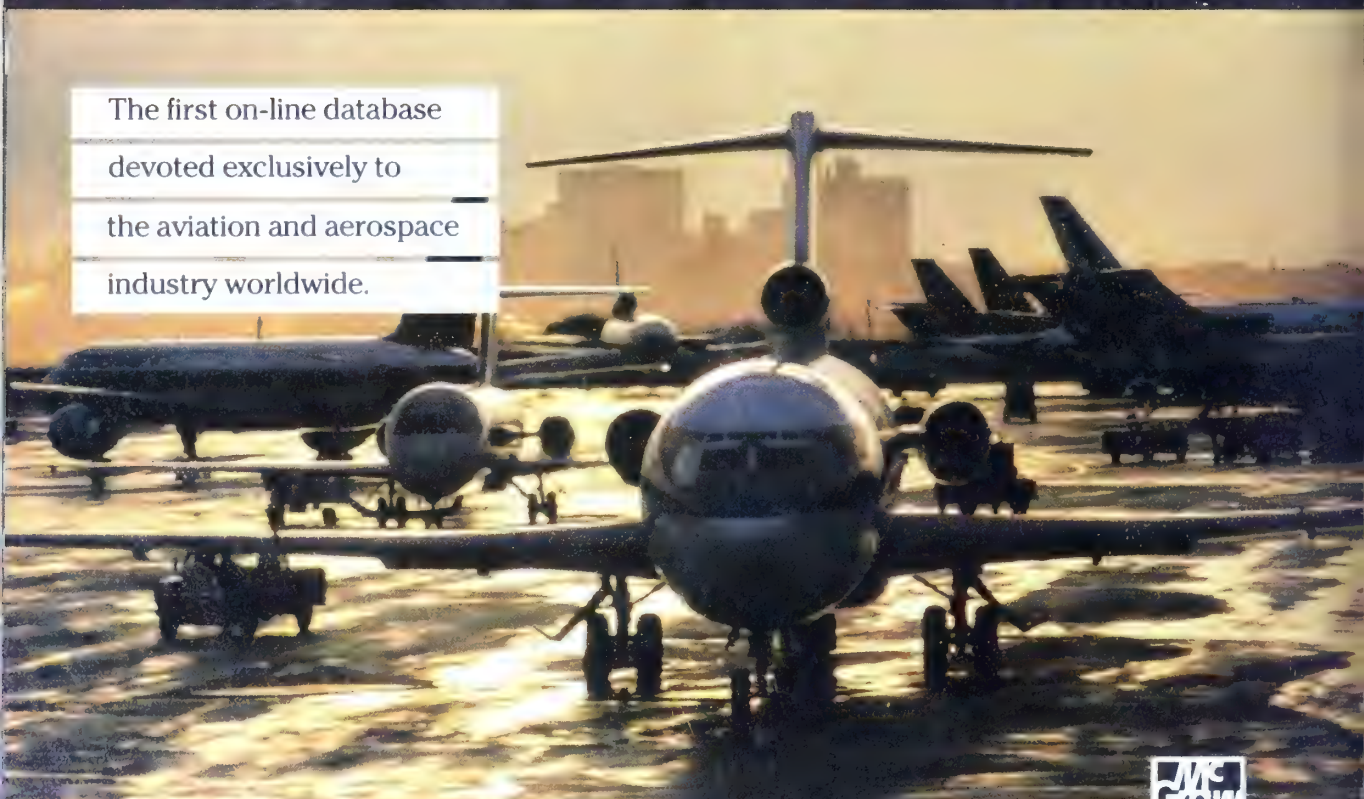
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JOHN CLEESE'S FLYING BUSINESS CIRCUS

He's a one-man conglomerate and playing it straight—sort of

As John Marwood Cleese's gangly 6-foot, 5-inch frame strides into view, a booming voice says hello, and you immediately notice those eyes, those lips. What there is of them, anyway. He doesn't really have lips to speak of—just two thin, pink lines—and his eyes are like big sunken golf balls. Suppressing a laugh, it occurs to you there isn't a man alive who has done better at turning his awkward physical traits into assets. For three decades, Cleese's brand of sharp-edged, physical humor has made millions of people hold their sides with laughter. His zany sketches from *Monty Python's Flying Circus*, his manic hotelier Basil in the *Fawlty Towers* series, and his vulnerable barrister, Archie Leach, in the Academy Award-winning film *A Fish Called Wanda*, are all cult classics.

So what does the 53-year-old Cleese, a multimillionaire who is not content with the role of comedian, do for an encore in the 1990s? He talks about business, writes about business, and even makes films about business. Many disappointed fans, in fact, regret that Cleese these days is all business.

He manages a kind of John Cleese Ltd., a loose miniconglomerate consisting of himself and a cast of talented friends, ex-wives, and even his psychoanalyst, all of whom pop in and out of his various projects. He writes scripts, produces feature-length films, lectures to corporate executives, makes business-training films, writes books on psychology, and sells everything from tonic water to household appliances in TV ads. He's a sort of renaissance-man-for-rent, hosting his salon from the splendor of two huge, interconnected mansions that

serve as home and office, in London's leafy Holland Park neighborhood.

It's a rare sunny day in London, and Cleese, relaxed in jeans and short sleeves, says he's finished with acting—except in his own films: "It's dreadfully boring. I don't want to lie in bed memorizing lines anymore." He also doesn't want to do silly *Pythonesque* comedy any longer and says he has little pa-



FORMER PYTHONER CLEESE MAKES TV ADS, LECTURES EXECS, WRITES BOOKS ABOUT PSYCHOLOGY...

tience with fans who pester him to reenact the *Minister of Silly Walks* skit.

Yet the serious side of Cleese doesn't seem to get much respect, especially in his home country. He has co-authored two psychological self-improvement books. His latest, *Life and How to Survive It*, which examines the traits of healthy families and organizations around the world, has just been published to scant critical acclaim. The jibes in the Sunday papers have stung the comedian, who was used to a near-fawning press following. Some reporters used the book as a platform to belittle Cleese's abiding interest in psychology,

having fun with the fact that the man analyzed and twice-divorced Cleese is now married to an American psychoanalyst. But to Cleese, the book's reception is symptomatic of the narrow-mindedness of the British press. "They turned nasty because I'm trying different things," he complains.

Cleese refuses to let the press or anyone else define him. He dabbles in politics by contributing to Charter 88, a group that rallies for constitutional change in Britain through lobbying for freedom-of-information law and reform of the House of Lords. He has developed an interest in Buddhism. And he is not completely forsaken Hollywood; he still appears in films produced or directed by *Monty Python* colleagues, and is now immersed in writing the script for the sequel to *Wanda*, due to start filming next year. Cleese says current p-

call for the major character to be based loosely on several well-known business personalities. Who specifically? He won't say, but he intently quizzes a reporter on media mogul Rupert Murdoch.

FAST BUCK. Cleese plays a major role in the company he co-owns, Video Arts Ltd., one of the largest producers of business-training films. He and the other friends started the company in 1971. For Cleese, it seems like an easy way to make some extra pocket change—the *Pythons* were struggling to make ends meet, even then he was interested in using comedy to do more than make people laugh. Many years later, they

Video Arts for \$66 million.

Now under contract as a publicist, writer, and actor for Video Arts, Cleese says he relishes the work because it gives him a chance to do "something serious and worthwhile for a change." The \$20 million-a-year business, Video Arts, has a library of 125 instructional-cum-mor films that have been sold in 20 languages to more than 100,000 organizations, including Lloyd's of London, General Motors, British Airways, NASA. Among the subjects are sales techniques, how to hold meetings, customer relations, and team-building.

Co-owner Tina Tietjen says the U-

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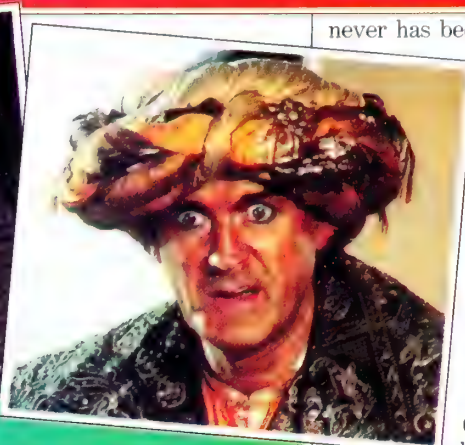
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ck this late," says the character.
m tutors managers on running
effective meetings through a series
am sequences after the workahol-
switches off the light.
se has a lifelong interest in teach-
efore he studied law at Cambridge
sity in the early 1960s, he spent
ears teaching biology at St. Pe-
reparatory School, the same pri-
hool he attended as a boy in quiry
Weston-super-Mare in south-
England. His upbringing, as the
on of elderly parents who moved
es in 24 years, produced grist for

his *Python* mill, as did his formative
years as a member of the buttoned-down
British middle class.

EGOTISTS. All of the films, scripts, and
books draw on his experiences as both a
manager and an employee—especially
his work with bumbling executives at
BBC-TV and later producing *Wanda* for
Metro-Goldwyn-Mayer Inc. While he

never has been a company man and pro-
fesses to have no finan-
cial acumen, Cleese has
gained rare insights into
the corporate world. He
admires Americans but
thinks the main problem
with U.S. managers is
their egos. Too many man-
agers are hampered by
"their self-importance and
insecurity over whether
their staff is going to re-
spect them if they don't
have all the answers," says
Cleese. "Americans think
being decisive is important.

Pretending you're decisive is idiotic."
Cleese isn't ready to become a man-
agement guru, though he has lectured at
the Harvard business school on encour-
aging creativity. And he still champions
the use of humor in the office. "Some
people are afraid of humor," he says.
"They're afraid that if any is allowed,
their pomposity will be deflated."

For the person the British press calls
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Cleese can be very serious. Rupert Mur-
doch, consider yourself warned.

By Paula Dwyer in London

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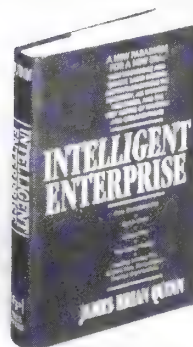
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IN ANY LANGUAGE, IT'S UNFAIR

More immigrants are bringing bias charges against employers

Something about the phone calls didn't sit right with Hollis Nurse. Last July 8, the Trinidad-born American twice called Malaga Bank in Palos Verde Estates, Calif., to inquire about some advertised teller positions, only to be told each time that they had been filled. The odd part was this: That same day, Nurse's friend Kim Whitney made two similar inquiries—and, Nurse says, was told the slots were still open.

Then it hit them. Nurse speaks flawless English, but with an accent that they suspected could have been the difference. On Apr. 30, Nurse filed a complaint with the Equal Employment Opportunity Commission alleging that the bank discriminated on the basis of national origin. "It's unfair to judge a person just by the way he sounds," he charges. Malaga spokesman Angel Gomez denies the bank discriminates and notes that it has many foreign-born employees, including some top managers. **"ENGLISH ONLY."** However the case turns out, Nurse and Malaga have plenty of company. As the recent wave of immigrants from Asia, Latin America, and the Caribbean enters the labor force, the new workers are complaining that they face a rising tide of employer discrimination. Some companies are adopting "English-only" rules barring foreign languages on the job and during breaks—a burdensome requirement for immigrants who are more comfortable speaking their native tongues. Immigrants also charge that some employers are engaging in more subtle tactics, such as failing to promote or hire those with foreign accents.

The result has been a sharp jump in national-origin charges at the EEOC. Last year, 14,394 complaints were filed, up 30% from the 11,114 in 1989. "There's a backlash against immigrants, combined with the recession, that is expressed not in out-and-out racism but in language discrimination," says lawyer Edward M. Chen of the American Civil Liberties Union in San Francisco.

And the flood of litigation may grow. The easing in 1965 of limits on Asian and Latin American immigration has caused an influx of non-European new-

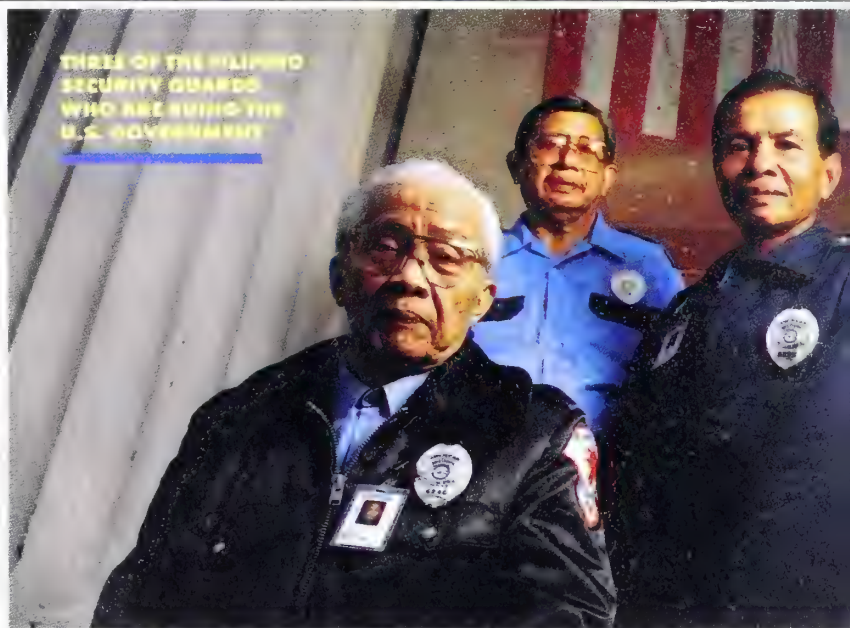
comers unrivaled since the turn of the century. From 1981 to 1990, Asians made up 37% of all immigrants, compared with 6% in the '50s, and Latin American and Caribbean natives were 47% of the total, compared with 25% three decades ago.

While immigrants have long faced discrimination, they're just now beginning to tap a powerful weapon: federal anti-

glish wasn't good enough to calm irate customers who were denied credit—a requirement for the job he sought.

Increasingly, employers have been settling cases. Without admitting liability, Eiki International Inc. in Laguna Hills, Calif., last December agreed to pay \$12,000 in lost wages and an undisclosed amount of damages to salesman Kishai Patel. He claimed the audiovisual sales company fired him because of his Indian accent. Earlier this year, Pomona Valley Hospital in Pomona, Calif., agreed to pay an undisclosed amount, without admitting fault, to Adelaida Dimaranan, a Filipino nurse who had challenged the hospital's blanket English-only policy because it discriminated against bilingual workers.

Such successes are leading to more suits (table). Five Filipino secu-



bias laws. The 1964 Civil Rights Act protects workers from discrimination on the basis of "physical, cultural, or linguistic characteristics" traced to a mother country. Until recently, few cases were filed, and employers won many of them. They argued successfully that to run a business, managers need to base hiring decisions on such factors as language skills.

BLANKET POLICY. In the past two years, plaintiffs have had more success in court. The Washington State Supreme Court in January upheld a \$389,000 judgment against Seattle-based Peoples National Bank of Washington. The trial court found that the bank had illegally denied Cambodian-American Phanna K. Xieng promotions because of his accent. Peoples' attorney, James R. Dickens, says the bank felt Xieng's accented En-

guards, for example, are suing the government and their employer, American Mutual Protective Bureau. The guards, who were assigned to protect the Treasury building in San Francisco last year, say they were removed from the job because a Treasury official said he couldn't understand their accents. "I didn't believe it, because I don't have a problem speaking English," says Perfecto N. Estrada, who had been promoted many times before by American Mutual. AMPB says it just followed the government's orders. San Francisco U.S. Attorney John A. Mendez says the U.S. is not responsible for the actions of AMPB, an independent contractor.

Outside the courtroom, some experts believe that employers who aren't open to foreign-sounding or -looking workers may pay a high price in the

nt and productivity. Discouraged employees "may not take the initiative to produce inventions and other innovations," says EEOC Commissioner Joy Brian. "Every day, American employees are losing millions of dollars because these talents are frozen."

AN FLIGHT. Sometimes that talent simply heads for the exit. At AT&T Bell Laboratories in Murray Hill, N.J., for instance, Asian-Americans are 22% of the company's 22,000 employees. But they leave at a rate double that of white employees, the company says. One explanation? Asians take three to five years longer than white males to get their promotion, says David Chai, a Chinese-American systems engineer. "Asian-Americans are not promoted because they are looked upon as good workers, not good managers," he says. But Ethel G. Batten, the labs' diversity manager, says many Asian-Americans prefer to stay technical workers.

FIGHTING THE ANTIFOREIGN BACKLASH

VS. AMERICAN MUTUAL PROTECTION

BUREAU Five Filipino security guards hired to guard a federal building sued their former security agency and the U.S., claiming that they were given lower-paying jobs because of their accents and that the defendants are fighting.

S. PERSONNEL ONE The Equal Employment Opportunity Commission charged a Miami-based security agency with coding foreign applicants as heavy or light accents. The agency says it does not discriminate.

VS. SPUN STEAK CO. Two Hispanic employees sued their employer over its English-only policy. A court ruled against the company, and the case is on appeal. The company says the rule is discriminatory.

DATA: BUSINESS WEEK

so, Bell Labs hopes to educate managers about the cultures of ethnic employees. Then managers will "give them positions of authority," she adds. Many companies are recognizing the realities of the workplace. Los Angeles-based Hughes Aircraft Co. assigns jobs for minorities and women and teaches them about Hughes's culture and corporate survival skills. But some immigrants feel that immigrants bring problems on themselves by not trying hard enough to fit in.

As companies become increasingly dependent on immigrants, they will have no choice but to make room for workers who sound and look a little different. Then, companies accused of turning away foreigners such as Hollis Nurse will have some explaining to do.

By Catherine Yang in Washington

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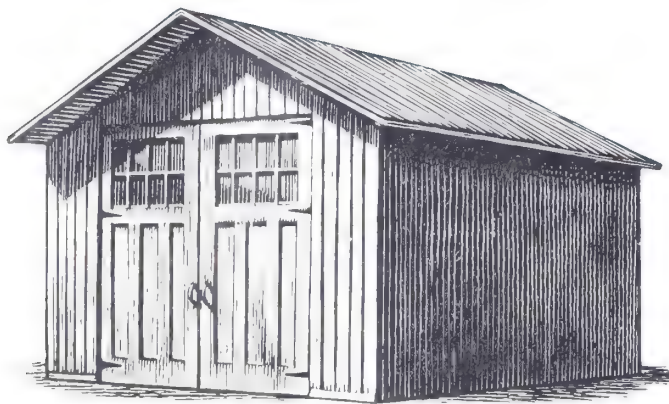
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Developments to Watch

BY EMILY T. SMITH

FASTER SYNTHETIC DRUGS, WATER OUT OF THE LAB



Drugmakers strive to produce drugs without side effects. That can be difficult, because some drugs are synthesized with two different versions of the same molecule. One version may be safe, while its mirror image can cause side effects. Drugmakers are already taking out the damaging one in about 525 drugs. But the process

not yields as well as raise costs.

John A. Carpino, a chemist at the University of Massachusetts Amherst, has figured out how to make purification more efficient. He has developed a catalyst that can produce synthetic chemicals up to 50% purer than those made by other processes. The new catalyst, a peptide made of amino acids, is up to 32 times as fast as other agents now in use. Merck Corp. in New Bedford, Mass., has licensed the catalyst and plans to have it ready for market later this year. Arch Marketing Corp. expects annual sales of the chemical additive to top \$10 million by 1998.

THE LUPIN BEAN COMEBACK, BUT NOT THE BEAN

The lupin bean, grown in the South in the 1950s for animal feed, was eventually displaced by higher-yielding soybeans. It's making a comeback, however. Voyager Trading Co. has been selling a lupin-based food called Lupini Pasta for several years. And the company just started selling the pasta in California, where it expects to unload more than a million pounds a year. Meantime, farmers in the South are again eyeing the bean as a potential animal feed.

Why the renewed interest? New varieties of higher-yielding, sweeter-tasting beans for starters. Also, lupin has more protein than soybeans and more than twice the calcium of most other dry beans. So when lupin flour is combined with regular flour, the resulting protein is more complete than in flour alone. The bean fixes nitrogen in the soil, so farmers don't need as much chemical fertilizer. And it grows in cool climates and poor soils. Given those advantages, rising interest in organic foods, fewer chemicals in agriculture, and demand for more natural substitutes, the "economics are coming back to favor lupin," says Richard C. Sampson, Voyager's president.

THE COLD WAR LABS VS. THE HOME FIRES BURNING?

One of Washington's toughest R&D calls is what to do with the federal weapons laboratories. The three major nuclear labs—Sandia, Lawrence Livermore, and Los Alamos National Laboratories—consume more than \$3.5 billion a year and employ thousands of scientists and engineers. With the end of the cold war, the U.S. needs fewer new weapons. Should Uncle Sam dramatically shrink the labs? Or

should the labs take on new tasks, such as boosting the competitiveness of U.S. industry (BW—June 7)?

Now, the Congressional Office of Technology Assessment has weighed in with a long-awaited report. The bottom line: The labs must undergo substantial changes to survive. At the moment, the labs are trying to justify continuing their traditional weapons programs by spinning off technology to companies. That won't save them. "R&D partnerships with industry... are not likely to prove a satisfactory central mission," the report concludes. Instead, the labs must find new missions. Possibilities include developing clean cars or high-speed trains. But the labs, says an OTA analyst, should compete for funding with other agencies, universities, and companies.

GETTING THE LEAD OUT OF CRYSTAL GLASSWARE

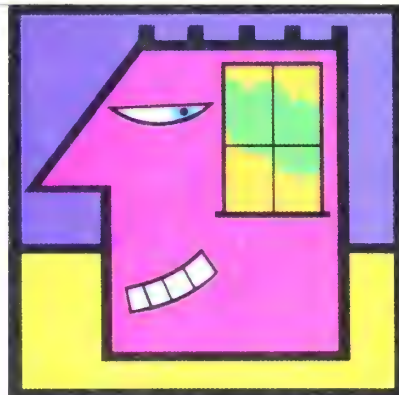
Makers of leaded crystal were shattered two years ago after U.S. researchers found that tiny amounts of lead migrated from crystal into wine and other beverages in as little as 20 minutes. Makers of the costly and beautiful glass insisted crystal was safe, but they vowed to make it safer by cutting lead emissions.

That's easier said than done. Under contract to Waterford Crystal PLC, Polymer Research Corp. in Brooklyn, N. Y., developed a polymer coating for lining vessels. But John A. Kennedy, a Waterford researcher, says the lining turns brown and develops specks. Reformulating the glass so lead ions won't come out as easily has been more successful. Still, Timothy F. Maher, chairman of the International Crystal Federation, says no one approach works for all crystal makers because production methods differ vastly. He says research is continuing on several approaches, and lead emissions are dropping. That's good: Based on preliminary tests, Columbia University toxicologist Joseph Graziano and physician Conrad Blum say the body's intake of lead in wine may be enough to cause concern.

A RAY OF LIGHT ON THE STROKE SUFFERER'S BRAIN

More than 500,000 people suffer strokes each year in the U.S. The search for a cause and treatment is frustrated by the difficulty of monitoring what happens inside the brain during and after a stroke. But scientists may have found a window into changes that occur in key brain proteins and lipids: a technique called near-infrared spectroscopy. The presence of abnormal proteins and lipids indicates what damage has occurred and the extent. Researchers hope to extend today's studies in animals to humans to screen drugs that may block these chemical changes.

For now, though, Dr. Robert A. Lodder of the College of Pharmacy at the University of Kentucky Medical Center, Lexington, is using a video camera modified from military weapons by Cincinnati Electronics to track the composition of arterial plaques that lead to strokes in patients. If these plaques are composed of lipids, they can be reversed with drugs, which is less dangerous and expensive than surgery.

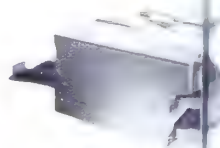
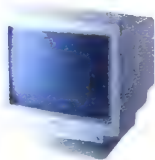


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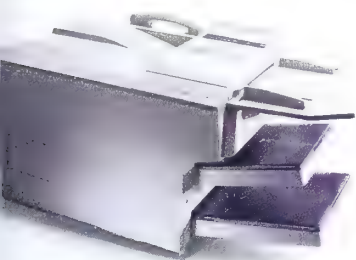


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IS BUCK ROGERS' SHIP COMING IN?

Vertical-takeoff-and-landing spacecraft just might fly

On a clear morning in mid-June, in a corner of the White Sands Missile Range in New Mexico, it will be back to the future for the U.S. space effort. When the countdown hits zero, ex-astronaut Charles "Pete" Conrad Jr. will remotely guide a new-breed spacecraft on its maiden blast-off. If the test goes well, the Delta Clipper X1—DC-X, for short—will briefly hover 100 feet in the desert air, like a streamlined Mayan pyramid, then settle back on the launchpad. Conrad calls it a "bunny hop" but says it will be "the biggest kick I've had" since his moon walk 24 years ago. This ship, you see, is like the ones familiar to Buck Rogers fans. It will take off vertically—and land that way, too.

Things may not go smoothly, of course. After all, the X in DC-X stands for experimental. Nothing quite like it has ever flown. Yet it was cobbled together by McDonnell Douglas Aerospace (MDA) in 18 months, for just \$60 million, from parts borrowed from the F-15 and other planes and rockets. So it may not lift off. Or it might land with a thud, or worse, at an angle and topple on its side, a 40-foot-long embarrassment. In that case, there will be no lack of I-told-you-so's. A top official at the Pentagon's Ballistic Missile Defense Organization (formerly the Strategic Defense Initiative Organization), which funds the DC-X, says even insiders have doubts. "People say, 'Don't give me that Flash Gordon stuff—you can't land on your ass.'" And that's mild

compared with the derision at NASA, which flies the space shuttle.

Even if the test goes well, it will be years before the Delta Clipper challenges the shuttle. Suborbital tests of the DC-X will last until yearend. Next would come a more advanced one-third-scale model, the DC-X2. "It would get to 100 miles high," says Major Jess M. Sporable, the program manager at BMDO. Finally, a full-size, 127-foot Clipper would be built, a job that could require five years and \$2 billion. So the rocket won't start commercial service before 2000—and then only if the money is raised, a task Sporable calls a "tough sell."

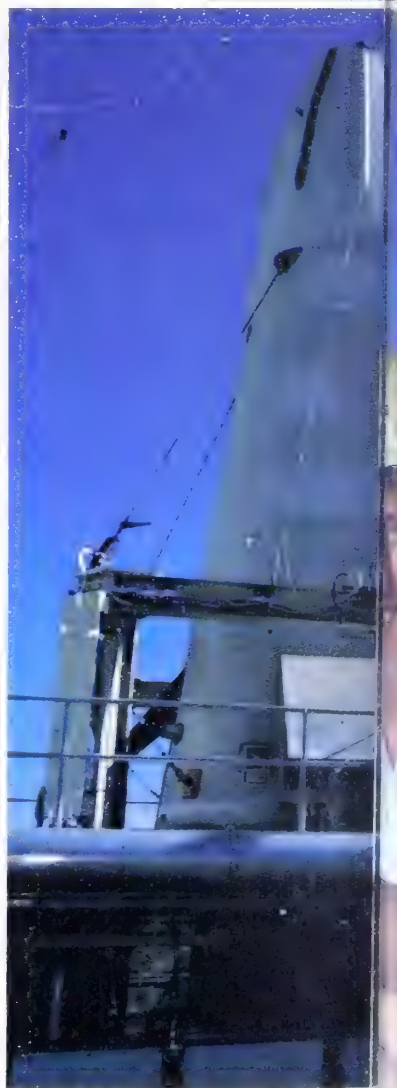
ON THE CHEAP. All those uncertainties notwithstanding, however, the DC-X may have a broader significance: It may mark the next phase in U.S. space exploration.

For three decades, manned space flight has been an occasional and expensive pursuit. But now, thanks mainly to advances in technology, aerospace companies and some in Washington think they see a chance to make space travel an airline-type business. Their goal is to stimulate private enterprise in space, including even tourism, and cut the cost of lofting spy satellites as well as space-based communications hubs. Boeing Co. is the latest to catch the bug. In early May, just a month after MDA rolled out the DC-X, executives from the Boeing Defense & Space Group unveiled for the Air Force Space Com-

mand and NASA a rival approach: a spaceplane launched from a super-jumbo jet.

Slashing the costs of access to space will mean doing the job differently with NASA's four shuttles and its 6,000 support personnel. Replacing the shuttle's heat-shield tiles, reprogramming its computers, and other prepping the craft for flight takes a million work-hours over many weeks. Result: A shuttle launch costs \$500 million—critics say closer to \$700 million. R&D costs were amortized. Given the shuttle's capacity of 54,000 pounds, a pound placed in orbit costs roughly \$10,000.

By contrast, predicts William A. Batz, DC-X project director at McDonnell Douglas, a Delta Clipper could cost roughly \$10 million to launch. Even a payload tops out at less than the shuttle's 25,000 pounds, the per-pound cost could plummet below \$1,000. That's largely because the Clipper's launch-



RATING THE LAUNCHERS

	CURRENT LEADERS		FUTURE CONTENDERS	
	NASA Space Shuttle	ARIANSPACE Ariane 4	MCDONNELL DOUGLAS Delta Clipper	BOEING TSTO
COST PER LAUNCH (MILLIONS OF DOLLARS)	\$500	\$70 TO \$115	\$10	\$16
MINIMUM TIME BETWEEN LAUNCHES	4 WEEKS	4 WEEKS	1 TO 7 DAYS	16 DAYS
PAYLOAD (1,000 kg)	23.5	4.9 TO 9.6	9.1 TO 11.4	14
COST PER kg PUT INTO LOW EARTH ORBIT	\$21,277	\$10,145 TO \$13,821	\$900 TO \$1,100	\$1,150

DATA: ARIANSPACE INC. BALLISTIC MISSILE DEFENSE ORGANIZATION BOEING CO. MCDONNELL DOUGLAS AEROSPACE NATIONAL SPACE SOCIETY

will be three people plus a pilot, either on board or at remote controls. The ship typically will fly again in a few days after no more than 350 work-hours of maintenance, thanks to self-diagnostic systems such as those used in the shuttle but yet to be tested in space. Gaubatz: "I'm betting that we'll fly every 24 hours—even twice a day in a pinch." This goal was the chief reason MDA got the contract, says Sponable.

ED VICTORY. During static tests in May, in fact, the crew fired up the DC-X's four Pratt & Whitney Co. engines—modified from those used on General Dynamics Corp.'s Centaur rocket. After routine maintenance, the crew reignited the engines on that day. "It was a first for any vehicle," Gaubatz boasts.

Why haven't NASA, the Pentagon, the European Space Agency already jumped onto the Delta Clipper concept? The reason dates to the 1950s, when the idea of a vertical-takeoff-and-landing vehicle was first evaluated. The problem was that the engines of that

era couldn't achieve the 17,500 miles per hour needed to sling into orbit both a craft and the fuel it needed: The solution was staging, or using more than one rocket and dropping off weight as the vehicle climbed. Even today, the shuttle needs a huge expendable fuel tank plus strap-on rockets to power it into orbit—and has to glide in for a landing.

During the following decades, more powerful rockets, better fuels, and lighter yet stronger materials were developed. By the 1970s, the throw-it-away approach was being rethought typically in favor of winged vehicles. But wings are heavy, and the drag they produce while in earth's atmosphere makes engines gulp fuel. NASA thus opted for the shuttle—a two-stage system—as an interim solution, then in 1984 began work on the National Aerospace Plane (NASP), a superfast vehicle that could loft payloads to orbit or fly the Pacific in two hours. Germany, meanwhile, in a project called Sänger, started work on a spaceplane to be launched from the back of a high-flying motherplane.

Britain, France, and Japan also cranked up NASP variations. All are still many years from flight—if they survive severe budget squeezes.

Gary C. Hudson, a consulting engineer and space entrepreneur from Redwood City, Calif., was among the few who continued to push for a wingless vehicle. A platform for Hudson's ideas appeared in 1980, when science-fiction author Jerry E. Pournelle formed the Citizens Council on Space Policy, a space-boasters club. At the inaugural meeting, Hudson pitched his concept to deaf ears. But by the mid-'80s, as the shuttle failed to live up to NASA's promise of routine flights to space, he was gaining wary supporters. Eventually, Hudson even won over Maxwell W. Hunter, former chief engineer of Lockheed Corp.'s Thor rocket.

That was enough for Daniel O. Graham, a retired U.S. Army lieutenant general who is a council member and director of High Frontier, a Washington lobbying group that helped sell the Reagan White House on Star Wars. Graham arranged a 1989 meeting with Vice-President Dan Quayle,

at which Hunter and Pournelle argued that a single-stage rocket was doable, quickly and cheaply, if it were handed to any agency but NASA. They saw NASA as so risk-averse in the wake of the 1986 Challenger accident that a vertical-landing vehicle would be studied to death. MDA's Gaubatz agrees. Last January, he told space buffs at a conference in Berkeley, Calif., that the DC-X under NASA might have ballooned into a five-to-eight-year, \$1 billion project. NASA declines to comment.

Quayle thought the space jocks at the Strategic Defense Initiatives Office (SDIO) were the logical alternative, since it was increasingly concerned about launch costs. At first, SDIO was skeptical. Then the Air Force, which also had been briefed by Graham, commissioned a study by Aerospace Corp., a civilian consultant to the Pentagon. To the surprise of nearly everyone, the Newport Beach (Calif.) think tank bought the idea—reversing its own earlier position.

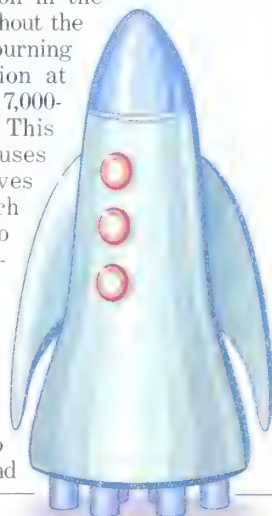
RIGHT STUFF. SDIO decided on a contest and called for bids in 1990.

Boeing, General Dynamics, Rockwell International, and McDonnell Douglas all concluded that a vehicle powered by a single-stage rocket had become feasible. General Dynamics and MDA worked on VTOL designs; Rockwell and Boeing proposed winged vehicles. The contract went to MDA in August, 1991, perhaps because Douglas had classified information from Air Force tests it conducted in the 1970s on technology that would let ballistic missiles maneuver as they descended on a target. From those tests, insists Gaubatz, "we've got the data that proves [vertical landing] can be done." He is so confident, he adds, that "I intend to fly in this thing." Sponable adds that his BMDO boss has told him: "If it doesn't work, I will get to ride it."

What the secret tests uncovered was this: If a rocket's shape tapers a certain way, from cylindrical at the nose to square at the tail, it can extend a flap to change direction in the atmosphere without the flap's quickly burning off from friction at speeds in the 7,000-mph range. This geometry causes the shock waves created at such high speeds to flare out, explaining the DC-X's pyramid shape. Thus engineered, a spaceship could come in nose-first, flip upright, and land



Former astronaut Pete Conrad will guide the DC-X's maiden flight by remote control



tail-down. The DC will still have to be protected with heat-shielding ceramic tiles like those on the shuttle. But because the DC's nose is cylindrical, there will be just a few common shapes. The shuttle's asymmetrical design means many of its tiles are uniquely shaped—and thus extremely expensive.

THIN-SKINNED. In another effort to hold down costs, the DC-X program is reviving the approach of the X-plane era, which former Defense Secretary Robert S. McNamara curtailed for fear that it might produce leapfrog technologies and upset arms talks with the Soviet Union. Like the X-1 thru X-15, planes piloted by such legends as Chuck Yeager, the DC-X makes do with lots of off-the-shelf technology. The idea, as with its predecessors, is to push that technology to the breaking point, where it becomes clear what improvements are needed.

So the DC-X has an F-15's inertial nav-

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ROCKET**



igation system. It has a commercial global-positioning system, accelerometers, and sensors from an F-18, and an on-board computer system developed for airliners by Honeywell Inc. Just about everything but the shell is borrowed. The skin, built of composites by Scaled Composites Inc. in Mojave, Calif., draws on the experience of the company's

founders, the brothers Burt and Rutan, who made aviation history in 1986 with an ultralight plane, the Voyager, that flew nonstop around the world.

If the upcoming bunny hop goes without a hitch, this patchwork of hardware will next roar to several hundred miles per hour, then a couple thousand, and finally 30,000. There, Conrad will flip it over, send it nose-first to a lower altitude, reverse the procedure, then ease it onto the launch pad.

It's a prospect that tickles Gary Conner. "I'm excited, naturally," he says, but adds: "I'm also excited by Boeing's new TSTO" (box). In fact, he's ready to applaud whatever gets the job done. "The important thing is finding a way to get into space cheaply—and soon. We do it," he adds, "is secondary."

By Otis Port in New York, with Carey and Seth Payne in Washington bureau reports

OUT OF A MOTHERPLANE'S BELLY—AND INTO ORBIT

If McDonnell Douglas Aerospace flops with the "bunny hop" test of its new spaceship, maybe a lift from a flying trapeze will do the trick. That's essentially what Boeing Defense & Space Group (BDSG) has proposed to the U.S. Air Force and NASA. Dubbed TSTO, for "two stage to orbit," the scheme envisions a spaceplane being launched from the belly of a supersonic carrier the size of a 747.

"We've designed the vehicles, done the technical analyses, and costed out a program," says Richard Hardy, general manager of BDSG's Military Airplanes Div., "and TSTO is doable." Hardy won't discuss how much it would cost to engineer and build a motherplane-spaceplane combo, though the number is many billions. However, once that investment is made, he predicts that the TSTO could put 30,000-pound payloads into low-earth orbit for \$500 to \$600 a pound, or about 5% of what the shuttle costs. That price assumes a fleet of three motherships and four orbiters making 42 launches a year.

Using a big plane to launch a spaceship isn't a new idea. Germany has been working on a similar concept, called Sänger, since 1987, and British Aerospace has studied the feasibility of teaming its Hotol spaceplane with a Russian Antonov An-225, the world's

biggest plane. Orbital Sciences Corp., an 11-year-old Fairfax (Va.) company, has developed a small rocket, called Pegasus, that's launched from under a B-52's wing—and has put two satellites into orbit this year. Most other dual-plane proposals, Boeing says, launch the orbiter from the back of the mothership, which is tricky. NASA ferries its shuttles on the back of a 747 between landings and launchings, and it typically takes a day just to mate the two craft. That's hardly conducive to

30,000 feet that drops the spaceplane down and away. "Everything can be put together after that." The system can be built with technology that exists, or could be quickly developed—so the TSTO might fly as early as 2000. It could also reap a payoff from the \$1 billion that NASA and the Defense Dept. have spent on the now white-hot National Aero-Space Plane (NASP) program, by adapting much of that research. Because Boeing's spaceplane wouldn't have to haul the full

weight needed to climb the 30,000 feet, it could be launched into space with existing engines, eliminating the need for a major breakthrough in powerplant technology that has stymied the NASP.

"DRIVER." The problem, Hardy concedes, "is the need for a front-end investment in a period of austerity." But balancing the budget could be even tougher, he warns. "The U.S. doesn't develop more competitive space launch systems. Space is important technology for the whole aerospace industry, which plowed money into NASP. If Washington doesn't invest in a new approach to space, Hardy fears, his industry—a big exporter—could end up as second-hand as autos and steel.

By Otis Port in New York, with bureau reports



THE BOEING CONCEPT: A SPACEPLANE LAUNCHED FROM AN SST

airline-type operations, where flight frequency is an economic cornerstone.

Boeing latched onto a better way, Hardy contends, in 1985. "One of our guys came up with the idea of slinging the orbiter underneath" and launching it with a trapeze-like mechanism at

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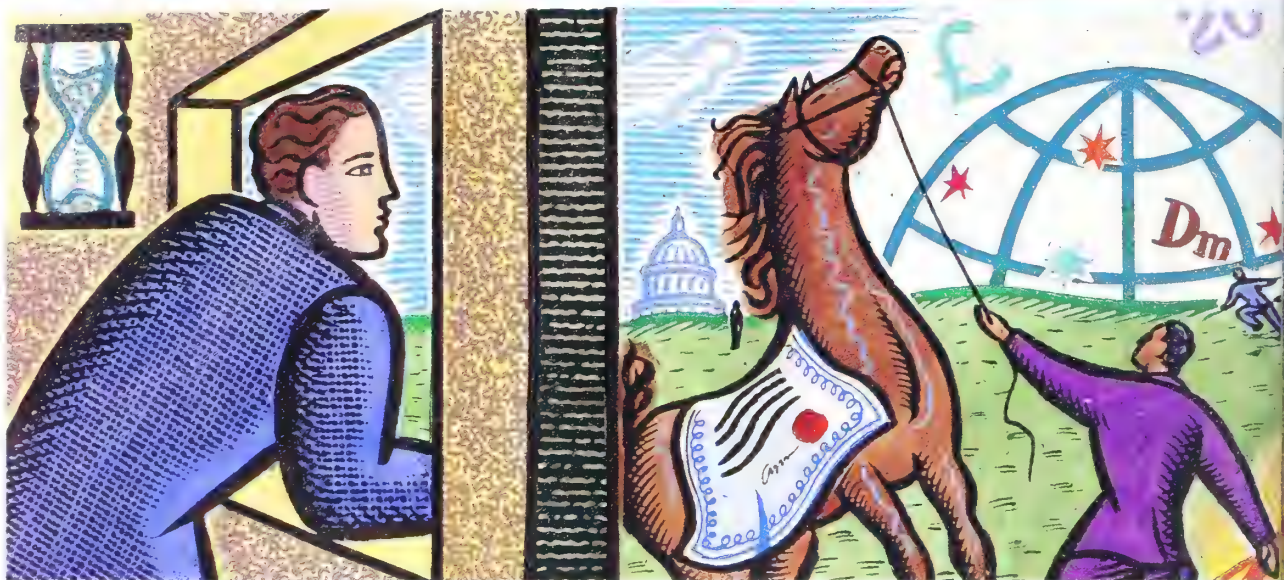
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WHERE TO INVEST

Relax, relax. Here's
a steady hand for
nervous investors

Most investors have enjoyed solid returns so far this year, but you wouldn't know it from the talk on the Street. The stock market crowd worries whether stocks, near an all-time high, are about to sputter. Bond buyers fear that their salad days may be wilting. And everybody's worried that the message from gold, which has shot up 12.4% this year, is bad times ahead.

It's O.K. to be worried. The U.S. economy is still not as strong as many would have hoped for just a few months ago. Washington is likely to levy a stiff tax hike. And infla-

tion has shown some disturbing signs of edging higher in recent months.

But the only worry-free investment is a very short-term U.S. Treasury bill or an insured certificate of deposit—in other words, a 3% payoff. If you want, or, more likely, need something more, you have to take action.

That's where BUSINESS WEEK's Midyear Investment Outlook comes to your aid. This Special Report provides the tough investment environment in the U.S. and abroad, to find the opportunities with the most potential payoffs in the second half of 1993.

For starters, you can worry a little less about the economy. Growth should hit 3% in the coming months (page 124). That's hardly boom times, but the modest growth rate should keep interest rates and inflation in check.

You may be sweating over what's going on in Washington (page 125). Yes, there will be a big tax hike, probably not as big as was feared a few months ago. Health-care reform

will be less drastic as well, and, if all goes as planned, the budget deficit will decline.

As the economy gains strength, so will stocks (page 126). The market has already begun to anticipate better times, bidding up prices of companies that need a strong economy to prosper. Much the same dynamics are at work among the small-cap stocks (page 128). Smaller cyclical companies look the most tempting, and they offer a more potential payoff than the larger ones.

Clearly, those investors who have already cast their



on a stronger economy are already raking it in. The performing stock in the Dow Jones industrial average, for instance, is Caterpillar, the heavy-equipment manufacturer. Caterpillar was a big winner in the portfolio of a W. Millsap, a Little Rock money manager, who, along with several other investment pros, each invested a hypothetical \$100,000 in a portfolio back in December. The story on page 130 checks up on how they've fared and what they're doing for the remainder of the year.

If you're thinking stocks, don't forget the foreign market—many offer more compelling investments than the U.S. (page 132). Japan's stock market, after declining for years, appears to be reviving. The U.S. is still mired in recession, but that's often a good time to bargain-hunt.

Other than search for gold in unfamiliar territory, most investors buy mutual funds that specialize in foreign stocks. Funds investing in the foreign markets have delivered a 7% return so far this year. Of course, nothing beats precious metals funds, which invest mainly in gold and silver stocks. They're up a whopping 55.4% after years of tremendous losses. It sure is great, but that kind of performance is unlikely to last. Mining companies were

also the best-performing stock group in our review of the year's best (page 142)—so far. The surge in gold, first in the stocks and later in the metal itself, has forced investors to reconsider this long-overlooked investment (page 140). While the metal's gains won't melt away, the rally probably does not have much running room.

For fixed-income investors, the second half is mixed. The decline in rates is over, but the outlook is for stable yields around current levels (page 134). Still, there are ways to boost income. Junk bonds offer high yields, and better business conditions make credit quality less of a concern.

Many bond investors have already plunged into municipal bonds. Muni yields may look unappealing at first glance, but the income is safe from the taxman's grasp (page 135). And don't forget the income-producing aspects of real estate. Real estate investment trusts (REITs) are booming, and savvy buyers can find many with alluring payouts.

Sure, the investment climate is stormy. Stocks are high, interest rates may have hit bottom, and the pros are nervous. Still, BUSINESS WEEK's roundup finds enough opportunities to calm the most jittery worrywart.

By Jeffrey M. Luderer in New York

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REAL ESTATE Home sales are close to a six-year high; office rentals remain stuck in the basement.....PAGE 138

PRECIOUS METALS Those smug smiles on the faces of gold bugs probably won't be there for long.....PAGE 140

THE BEST Surprises in the 1993 star search (so far). Guess which country had the hottest market.....PAGE 142

INSIDE WALL STREET Fruit of the Loom, SciClone, Agnelli, fund companies, Capital Gaming, Candie's.....PAGE 144

READY, SET, GROWTH —AT LAST

After a few laps of foot-dragging, GDP gains may hit 3% this year: Not great, but not shabby, either.

WHERE TO INVEST

Still waiting on the recovery? Here's some advice: Stop moaning about the past, and start feeling better about the future. After growth of only 1.6% during the first year of the upturn and 2.6% during the second year, BUSINESS WEEK believes the economy is now capable of sustaining a rate of 3% or better during the coming year. That's not great, but it's not too shabby, either.

As we see it, that pace will add at least 175,000 jobs a month and let the unemployment rate continue to drift lower from its May reading of 6.9%. The pickup in growth will also generate sufficient gains in both profits and incomes to assure that business investment and

consumer spending remain the expansion's driving forces. At the same time, though, 3% growth is slow enough to keep upward pressure off inflation and interest rates. For investors, this climate should be friendly for both stocks and bonds, although the bond market is likely to remain jittery until Capitol Hill gets the fiscal 1994 budget out of the way (box).

CAPPUCCINO FROTH. The machinations in Washington are already having an adverse impact on the economy, say most of the economists included in our mid-year survey of forecasts (table). "All the uncertainty, especially over taxes, has held back corporate and household buying," says Theodore H. Tung of National City Corp. in Cleveland. The Clinton Administration's Keystone Kops approach to policymaking also has hurt confidence.

But after the budget fight is over, business and consumer optimism are likely to recover a bit.

Even now, the economy gives us indication that it is bouncing back at its pitiful 0.9% annual pace in the quarter. So far in the second quarter consumer spending is growing at an annual rate of more than 2% above the first quarter. Sales of new homes in April surged to the highest level in seven years, assuring a burst of home starts this spring, as well as rising summer purchases of everything from pets to cappuccino makers. And job employment posted back-to-back gains of more than 200,000 jobs in both April and May—the first time that has happened in more than three years. If this momentum, we expect real gross domestic product to post a 3.4% gain in the second quarter.

In fact, the first-quarter numbers showed stagnant growth and accelerating inflation could not be more misleading about the economy's prospects for the coming year. That's especially true for inflation. Although the consumer price index rose at an annual rate of 4.3% for the first four months of 1993, compared with a 3% pace for all of 1992, we believe that the CPI will settle in coming months and that inflation will end the year at about 3%.

Why? With so many underutilized resources, real GDP is some 4% below its potential level—at which all labor and capital are fully employed. Even if the economy grows 3% through the third quarter of next year, real GDP will remain below its potential. So chances are slim that inflation will begin to accelerate, at least through year-end 1993. **TAMING PRICES.** That's why the Federal Reserve is unlikely to jack up short-term interest rates any time soon. Fed's new worries about inflation and its apparent readiness to tighten monetary policy in the face of more bad inflation numbers are understandable: The Fed must maintain its credibility in the financial markets as an inflation fighter. But if the price indexes start to tame again, as seems likely, the Fed may be hesitant to raise rates. Fed tightening could cause Congress to balk at

WHAT ECONOMISTS ARE FORECASTING

	Percent change in real gross domestic product						
	1993			1994		HQ '93 HQ '94	
	II	III	IV	I	II		
JAMES F. SMITH Univ. of North Carolina	4.2	6.8	5.2	4.7	3.6	4.5	
ROGER BRINNER DRI/McGraw-Hill	2.7	3.4	2.8	3.9	3.9	3.5	
MICHAEL R. ENGLUND MMS International	3.5	3.0	3.5	3.5	3.5	3.5	
LAURENCE H. MEYER Laurence H. Meyer & Assoc.	2.1	3.6	3.5	3.5	3.2	3.5	
ROBERT G. DEDERICK Northern Trust	2.6	3.2	3.6	3.0	3.6	3.4	
C. HEATHER DILLENBECK U.S. Trust	2.0	3.3	3.7	3.5	3.0	3.4	
F. WARD MCCARTHY Stone & McCarthy	2.5	3.5	3.5	3.0	3.5	3.3	
NICHOLAS S. PERNA Shawmut National Bank	2.5	3.5	3.6	3.2	3.0	3.3	
MICHAEL W. KERAN Prudential Insurance	4.0	3.5	3.5	2.8	2.8	3.2	
LYNN O. MICHAELIS Weyerhaeuser	2.1	2.8	3.2	3.9	3.0	3.2	
DAVID H. RESLER Nomura Securities Intl.	2.3	3.7	3.4	3.5	3.2	3.2	
JAMES C. COOPER, KATHLEEN MADIGAN BW	3.4	3.1	3.6	2.9	2.3	3.0	
DAVID MUNRO High Frequency Economics	1.2	2.6	2.8	3.1	3.3	3.0	
THEODORE H. TUNG National City Corp.	2.1	2.7	3.5	2.8	3.0	3.0	
MAUREEN ALLYN Scudder, Stevens & Clark	2.4	4.3	4.1	1.2	2.0	2.9	
JAMES E. ANNABLE First Chicago	2.2	3.7	2.1	3.0	2.5	2.8	
DAVID L. LITTMANN Comerica	2.8	3.7	3.0	3.0	2.8	2.8	
IRWIN L. KELLNER Chemical Banking	1.3	2.3	2.3	3.0	2.7	2.6	
JEFF K. THREDGOLD KeyCorp.	2.4	2.5	2.5	2.5	2.5	2.5	
LACY H. HUNT HSBC Holdings	1.9	1.6	1.3	1.0	1.3	1.3	
AVERAGE	2.5	3.3	3.2	3.1	2.9	3.1	

DATA: BUSINESS WEEK

Clinton's tax-heavy economic program and that could push up long-term interest rates.

Interest rate pressures and Fed tightening will be more of a problem for 1994. The Administration will be mandating budget cuts at a time when a stronger economy will help businesses pass those costs along," warns C. Heather Dillenback of U.S. Trust. That could set up a conflict that would hurt economic growth sometime in 1994, as Fed hikes in interest rates worsen the contractionary impacts of the Administration's proposals. As David H. Resler at Nomura Securities Co. points out, "the budget deficit is slanted toward tax hikes and spending cuts later."

Most all economists in BUSINESS WEEK's survey agree that the risks in the forecast are all on the downside. James Munro of High Frequency Economics calls the upturn "spotty and uneven" with the coastal states continuing to pull out on most of the economic front. And Robert Dederick at Chicago's Northern Trust Securities Inc. says, "I'm especially concerned that the weakness in Europe will harm the trade deficit more than expected, and I also worry about the drag from higher taxes."

TAXES. Indeed, the coming tax hikes will make some economists extremely edgy for 1994. Lacy H. Hunt of HSBC Holdings is the superbear of our survey because he questions the economy's ability to absorb "the largest tax increase in this republic's history." More along with increased import penalties, continued defense cuts, and problems in manufacturing are why he sees the economy barely budging in the next four quarters.

Others, however, are reading the tea leaves more optimistically than we do. Graw-Hill's Roger Brinner, for example, is banking on a pickup in U.S. economic growth. He forecasts that growth in the globe will be strongest in areas that are big purchasers of U.S. goods. Improved economies in Britain, Mexico, and Southeast Asia will boost U.S. exports by 5% next year, Brinner says.

China's ailing manufacturers would see a turnaround in exports, which would demand about 20% of U.S. industrial output. Better yet, more help is on the domestic side, which buys over 80%. With job growth looking best in years and with interest rates likely to stay down, gains in consumption, business investment in equipment, and housing will be strong enough to lift the economy at a pace not been enjoyed in more than 10 years. And that's nothing to count on.

James C. Cooper and Kathleen M. in New York

WHAT TO EXPECT FROM THE MESS ON THE POTOMAC

A year ago, investors trying to look past the uncertainties in Washington took comfort in knowing that once the elections were over, an economic policy course would be set for four years. Fat chance. After nearly five months of fits and starts, the Clinton Administration's unnerving tendency to offer an economic policy *du jour* is sowing confusion from Main Street to Wall Street.

Still, behind the bluster and obfuscation, some trends are becoming clear. Taxes are going up, and with luck, the deficit will edge down. Defense spending will continue a sharp decline. And no health-care reform will pass

The biggest change will be a reduction in the proposed energy tax. In a victory for business, the levy will be restructured by exempting farmers, manufacturers, and exporters to shift the burden from producers to consumers. Further reductions in government spending will be sought to make up the difference.

Clinton's proposal to raise the top individual tax rate to 39.6% will survive, but the plan to make the hike retroactive to last Jan. 1, 1993, won't. If the new rates were retroactive by six months or more, "next April, there could be some real cash-flow problems" for taxpayers, warns Rudolph G. Penner, former head of the Congressional Budget Office who now works for KPMG Peat Marwick. Otherwise, the Administration's package "will have a mild contractionary effect, almost small enough to be lost in the noise," says Penner.

FAMILY LEAVE. While business may have dodged some tax bullets, a heavier barrage is coming in a hands-on regulatory policy. Clinton has already signed legislation, vetoed by President Bush, requiring businesses to provide unpaid leave to new parents and others facing family emergencies. And the President has revoked Bush-

era regulations that could have lowered labor costs on federally funded construction. "This sort of slow regulatory buildup could produce price pressures and be at least as important as any tax increase on business," says Marvin H. Kusters, director of economic policy studies at the American Enterprise Institute. And that view is shared by some governors of the Federal Reserve Board.

But at least one potential regulatory nightmare will be delayed. Announcement of the Administration's ambitious—and costly—health-care plan keeps being postponed, and it now may not be unveiled until the fall. And a politically weakened White House is likely to drop many of the most drastic elements. In any event, Congress is unlikely to begin serious work on it until next year.

By Owen Ullmann and Paul Magnusson in Washington



Congress this year.

Don't count on a tough deficit-slashing plan, either. Lawmakers are still haggling with Clinton about the composition of budget cuts, but they're agreed that the deficit will remain at well over \$200 billion a year for the foreseeable future. By 1998, federal spending will be up by at least \$300 billion and the national debt will be \$1.2 trillion higher, even with the cuts. Additional spending cuts, beyond Clinton's proposed budget, will be relatively minor, \$30 billion to \$50 billion over five years.

SQUEEZE ON DOCTORS. The bulk of the new cuts will come in two areas: health care, which will produce a continuing squeeze on drug companies, hospitals, and doctors, and defense, where the reductions started by the Bush Administration will accelerate.

The Senate will scale back the Administration's proposed tax increases.

WHAT'S SO BAD ABOUT A SKITTISH MARKET?

Bearish fears are overblown—but may bode well for Wall Street

WHERE TO INVEST

The Dow Jones industrial average is traveling north of 3500, up nearly 50% since the bull market got rolling in October, 1990, and Dow 3600 appears to be within reach. The Standard & Poor's 500-stock index has been scaling new heights as well, and so has just about every other broad-based measure of stock prices. But instead of sipping bubbly, the folks on Wall Street are downing antacids.

"They're worried about inflation, they're worried about recession, they're worried about higher interest rates, and they're worried about Clinton," says Byron R. Wien, U.S. investment strategist at Morgan Stanley & Co., whose clients are mainly money managers. The newsletter gurus popular with individual investors are also spooked: Of the Top 10 market-timers followed by *Timer Digest*, only two are bullish, and a survey by *Dow Theory Forecasts* finds only 25% of advisers urging investors to buy.

But rather than fret, Wien and others see the skepticism and skittishness as a source of strength. There's nothing more bullish than a healthy dose of bearishness. The market has a way of moving against the majority. "It's a 'yes, but' market," says market analyst Laszlo Birinyi, of Birinyi Associates Inc. "People say, 'Yes the market is making new highs, but there's lots of reasons why it shouldn't.' I wouldn't be surprised to see the Dow at 4000 by yearend."

There's certainly plenty of cash around that is poised to move into stocks with mere phone calls. It comes largely from individual investors who poured nearly \$42 billion into equity mutual funds in the first four months of 1993. That's more than they took in during all of 1991. Corporations have been taking advantage of the huge inflows by issuing stock in record amounts—\$38.9 billion in the first five months of the year vs. \$72.8 billion for all of 1992, according to Securities Data Co. Still, the funds have more cash on hand than ever before, some 10.3% of assets, according to the latest reports.

But most of the analysts who are on

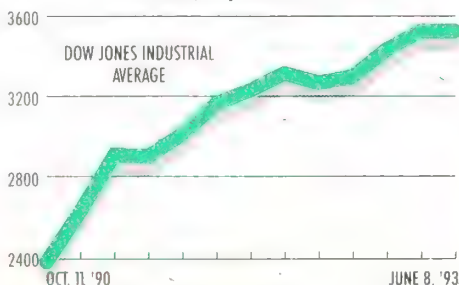


the bullish side don't forecast large gains for the coming months. Instead, they are expecting the Dow, now at 3511, to finish the year in the 3600-to-3700 zone—a 1993 gain of 10% to 12%, including dividends. "It's a trading-range market with a slight upward bias," says Abby J. Co-

hen, investment strategist at Gold Sachs & Co. That was just the market investors faced in 1992.

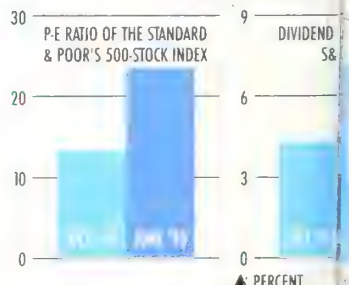
Indeed, the complaints heard a ago—about lofty prices, an unsettled political climate, a sluggish economy, slow profit growth—are still around

THIS BULL HAS COME A LONG, LONG WAY...



DATA: BRIDGE INFORMATION SYSTEMS INC., I/B/E/S INC., INVESTMENT COMPANY INSTITUTE

...AND STOCKS ARE NOT CHEAP...



Some new gripes have come to the fore: Inflation is kicking up, and a three-year decline in interest rates is as though it's over.

These concerns are valid, but most are overdone:

Inflation. No question, stocks are high on price-earnings ratios and dividend yields (chart). But such measures mean little without comparison to interest rates. Short-term rates in particular have tumbled to less than half their level at the start of this market and about one-third their level right before the 1987 stock market crash. Cohen estimates that stocks are 18% undervalued for the level of

the valuation picture is improving. Earnings (excluding extraordinary items) are forecast to climb 19.8% in 1992 and another 18.7% in 1993, according to Stanley Levine, senior vice president at I/B/E/S Inc., which is the consensus of analysts' forecasts. That will boost earnings portion of the p-e ratio. Higher earnings will also allow companies to boost dividends, and that will drive the dividend yield.

Clinton. Investors like a strong, confident hand in the White House, while President Clinton's performance has been anything but. However, the consequences of his weakness have paradoxically been to Wall Street's liking. Despite his fumbles, his stimulus package—which had few fans on the left—went down in flames.

So, to move his fiscal plan through Congress, the President will have to rely on tax hikes and deeper into budget cuts. Congressional resistance to higher taxes may force Clinton to back his health-care proposal as says Eric T. Miller, chief investment officer for Donaldson, Lufkin & Jenrette Securities Corp.: "If Clinton is pulled back to the political center, the market will take it very well."

Economy. As the latest employment report shows, the economy is improving. However, inflation over the past several months has been uncomfort-

ably higher than expected. But analysts firmly maintain that there's enough slack in the labor market and in the manufacturing sector to rule out the chance of an inflationary spiral.

The stronger economy probably means interest rates have bottomed out. But that's to be expected. Early in bull markets, stocks and bonds rally in tandem. Then, as the economy picks up steam, the two markets part company, and stocks rely on earnings, not interest rates, to drive them higher.

That's why many stockpickers are advising investors to buy economy-sensitive stocks—the companies that can ride the crest of the economic cycle to big profits. These stocks include autos, home builders, technology, and capital goods.

Carmine J. Grigoli, chief U.S. portfolio strategist for Baring Securities Inc., says this recovery is unusual because it has been driven far more by capital spending than by consumer spending. "The fundamentals for capital spending have rarely been so good," he says. "The cost of capital is at one of the lowest levels in history, the age of our manufacturing capacity is at a post-World-War-II high, and corporations are generating enough funds internally to finance their expenditures."

That's what's behind the surge in technology stocks such as Compaq Computer, Hewlett-Packard, Honeywell, Intel, Microsoft, and Texas Instruments, which are still on many buy lists. But Grigoli, for one, thinks it's already late to buy the high-tech stocks and instead has been recommending lower-tech companies such as Giddings & Lewis, a machine-tool maker, and multifaceted General Electric.

Ronald C. Ognar, a portfolio manager for the Strong Total Return Fund, thinks GE will be one of the star stocks of the second half: "It's in the right busi-

nesses, it's growth rate is improving, and—relative to the market—it's cheap." Other Ognar favorites include Emerson Electric, which makes electrical products, and Stewart & Stevenson Services, which builds gas and diesel turbines.

Ognar is one of many bulls on telecommunications companies. In addition to a cyclical rebound, these stocks offer potential for longer-term gains through cellular communications, multimedia, and other advances in information technology. Among the more favored plays by money managers are

AT&T, MCI, McCaw, Motorola, Pacific Telesis, Southwestern Bell, and U.S. West.

Although the big bucks are flowing toward the industrial stocks, some managers still find opportunities in out-of-favor consumer stocks. John W. Church Jr., chief investment officer for the Glenmede Trust Co. in Philadelphia, is focusing on retailers Circuit City Stores, Dayton-Hudson, and J.C. Penney. "They've got innovative merchandising strategies," he says, "and they're not expensive." Among the

battered health-care stocks, Church likes Baxter International and Schering-Plough, while Goldman's Cohen suggests Merck and Pfizer.

Even investors who can see beyond the worries say they're keeping their seat belts fastened. The stronger economy, for one, will eventually force short-term interest rates higher. That could be the catalyst for the long-awaited correction. The market has gone 137 weeks without a 10% pullback, and the record is 161 weeks.

When the correction comes, many will proclaim the start of a bear market. But bull markets don't end until the economy is running flat out—and this one is just starting to get some steam. Any pullback will be a buying opportunity for the next move up.

By Jeffrey M. Laderman in New York

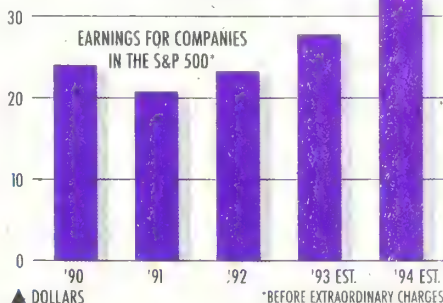
ACTION

Stick with equities. Home in on capital goods, technology, and telecom.

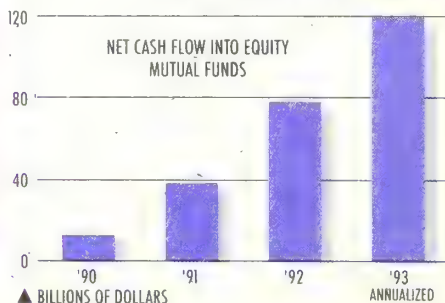
INTEREST RATES ARE DOWN...



...CORPORATE PROFITS ARE PICKING UP...



...AND CASH IS POURING INTO EQUITIES



THE SMALL-CAP ENGINE STILL HAS PLENTY OF GAS

Secondary stocks lead the market, and these rallies tend to last a long time

WHERE TO INVEST

For the investor who is considering a plunge into secondary stocks, this is a particularly vexing time. It's not so much that the market is meandering or that some small-capitalization segments—notably health care—are suffering. No, it's the good news that's depressing small-cap watchers. These stocks are reaching record levels, and the market in initial public offerings is sizzling. And to skeptics, those are the portents of an imminent market correction. Increasingly, investors are backing off. "There's a lot of uncertainty out there," notes Lawrence Auriana, co-manager of the Kaufmann mutual fund, a leading small-cap portfolio that recently raised its cash level to 15%.

Yes, small caps have been leading the market since the preelection rally (chart). But the market has yet to fall victim to that enemy of all bull markets: excessive euphoria. So the best advice is not to run for the escape hatch but relax and enjoy the rally. It could last a long time.

MORE FOR LESS. Cycles in second-tier stocks have a way of going on at length, usually for five to eight years. The last small-cap cycle, a period of extended underperformance, lasted from 1983 to 1990. So if the cyclical pattern continues, the latest small-cap bull market—which began in the fall of 1990—could have at least two years to run. Robert Ritter, a leading market technician and strategist at Ladenburg, Thalmann & Co., notes that dollar volume in the NASDAQ over-the-counter market frequently exceeds that of the New York Stock Exchange—a cheering sign of continued strength among OTC stocks, in Ritter's view.

Cycles and technical indicators are but one part of the argument for small caps. Another is valuations. Despite their runup, the prices of small-cap stocks remain reasonable. Mary Farrell, PaineWebber Inc.'s investment strate-



gist, notes that price-earnings multiples for small-cap stocks are now only about 21, vs. 23 for the Standard & Poor's 500-stock index. Notes Farrell: "You're actually paying less for superior growth."

Investors in small caps will probably do well this year—but there are still pitfalls aplenty. For one thing, the health-care sector is likely to remain depressed in the months ahead, until the details of the Clinton health-care program become known. Auriana has cut Kaufmann's exposure to health-care stocks to 14%, from 40% of the portfolio last December, and he notes that medi-

cal-device manufacturers are finding it harder to obtain approval for new products—a factor that should continue to bear down on this once hot stock group.

Investors might want to consider small-cap cyclical groups that Ritter and other stock-watchers believe is nearing a comeback as the economy slowly improves. S. Black, a portfolio manager at Delphi Capital Management, likes small steel companies, "minimills" such as New York Steel, Texas Industries, and Commercial Metals, which also favors small regional banks with low price-to-earnings multiples, since such companies are frequent worthy takeover targets. Picks there include Columbia BancGroup and West One

OFFICE SUPPLIES. At Kaufmann's

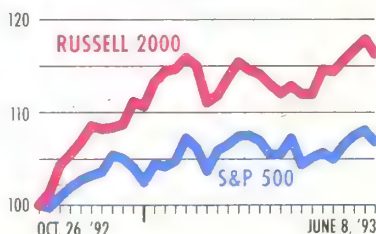
Auriana has replaced health-care stocks with a motley assortment of equities. He has taken positions in real estate investment trusts, software companies, offshore oil drillers, and office suppliers. His biggest holding is Viking Office Products, a mail-order supplier of office products.

Offshore drillers have been a hot stock group, but Auriana is buying into them on the theory that they are engaged in a long-term upswing, not just a "short, cyclical rebound" in drilling rigs." Kaufmann's oil-drilling holdings include Chiles Offshore Oil and Benton Oil & Gas.

A long-term trend and not a cyclical rebound: That's the argument for small caps generally. And as long as valuations remain sane, it's an argument that continues to make sense.

By Gary Weiss in New York

SMALL STOCKS ARE RACING AHEAD



▲ INDEX: OCT. 26, 1992=100

DATA: BRIDGE INFORMATION SYSTEMS INC

ACTION

Keep an eye on industries such as field service and software. Avoid high-risk care stocks.

CUT INVENTORY BY 35
PERCENT, HOLD COSTS
FLAT, REDUCE CYCLE TIME
BY 12 WEEKS, ON-LINE
ORDER ENTRY SYSTEM
BY FALL, INCREASE PRO-
PERSONNEL, NEW SALES
OFFICES IN FIVE STATES,
MERGE THREE DIVISIONS,
FASTER TIME TO MARKET,
18 PERCENT PRODUC-
TIVITY INCREASE, HELP!!

THIS MINUTE OF STRESS IS ABOUT TO BE
SOOTHED BY SOLARIS, THE OPERATING ENVIRONMENT
THAT CONNECTS YOUR ENTIRE ENTERPRISE.

9:53

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INFRASTRUCTURE. NOW WITH THE
"RIGHTSIZING" ERA AT HAND, COMPANIES
ARE FACING THE CHALLENGE OF GETTING
EVEN MORE OUT OF THEIR EXISTING
TECHNOLOGY, AT LESS COST.
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THREE OUT OF FOUR AIN'T BAD

That's how many of these stock pros beat the S&P with their hypothetical portfolios

WHERE TO INVEST

Folks in Little Rock may be disappointed that their favorite son's political star isn't shining so brightly nowadays. But they can take pride in another local luminary: stockpicker Mark W. Millsap of Meridian Management Co. Last December, *BUSINESS WEEK* asked four experts to invest a hypothetical portfolio for 1993, putting \$10,000 into each of 10 stocks. At mid-year, Millsap is the hands-down winner. His portfolio is up 32.6%, light years ahead of the bellwether Standard & Poor's 500-stock index, which mustered only 2.1% through June 8, excluding dividends. In an impressive display of savvy, six of his picks rose 30% or more, and just one declined.

The other three also performed admirably. Two beat the S&P by a few percentage points, and one fell a tad short.

Runner-up Robert S. Natale, editor of the newsletter *Standard & Poor's Emerging & Special Situations*, picked mostly small-cap and special-situation stocks and wound up with a 6.9% gain. British investor John Carrington of Carrington & Co., assembled a smorgas-

bord of consumer and technology stocks, which rose 4.8%. The team of Bernadette Murphy and Sheila Baird, of M. Kimelman & Co. in New York, cautiously bet on a mix of manufacturing companies—plus a utility, a medical company, and a retailer—and made a 1.3% gain.

BULL MARKET. All the investors picked stocks as long-term plays, so they're counting on further gains in the second half. But this year, *BUSINESS WEEK* allowed players one adjustment in their portfolios: They could sell one stock and use the proceeds on another. All but Millsap took advantage of the chance.

Millsap, who describes himself as a

"value-oriented contrarian," ran up his big gains by targeting metals, heavy industry, and technology stocks. His most prescient call was the turnaround in gold, which was still mired in a 12-year slump when he made his picks last December. His two gold stocks, Homestake Mining and Placer Dome, are up 60.7% and 60.4%, respectively. Millsap predicts they're headed even higher. "We're in the early phases of a long-term bull market in gold" due to short supplies and increases in demand, particularly in China

in Alumax, Amax' aluminum unit 28% of Amax Gold. Millsap thinks the package—of Cyprus, Alumax and Amax Gold stocks—is worth more than Amax now sells for \$22. And that does not preclude further gains from stocks.

Natale's experience shows the error of a little leverage in a portfolio. He chose to go heavy on Hanson, a British conglomerate. Natale had the choice of buying stock through American depositary receipts or the riskier but potentially

THE LEADER AND THE PACK

S&P 500
+2.1%



MARK MILLSAP



ROBERT NATALE



JOHN CARRINGTON



BERNADETTE
MURPHY

Percent change,
12/15/92
to 6/8/93*



Up
32.6%

Up
6.9%

Up
4.8%

Up
1.3%

Biggest
winner



Homestake
Mining
+60.7%

Hanson
B warrants
+37.5%

Synoptics
Communications
+55.6%

Rochester
Telephone
+17.4%

Biggest
loser



IBM
-7.3%

Hook-SuperRx
-26%

Philip Morris
-36.1%

Cytogen
-32.7%

Top pick for the
second half



Amax

Hanson B warrants

Marcam

Time Warner

*BASED ON A HYPOTHETICAL \$100,000 PORTFOLIO OF 10 STOCKS PUBLISHED IN *BUSINESS WEEK*, ISSUE OF DEC. 28, 1992

and India, he says. "If there's speculation or rapid inflation, that would be gravy."

Millsap remains bullish on two out-of-favor technology stocks, IBM and Digital Equipment. IBM, the only stock in his portfolio that stumbled, fell 7.3%. But he bought Digital at 32%, near its nine-year low, and it's now at 42%. "They're both headed in the right direction," he says. Investors underestimate the heavy cost-cutting and high quality of new management at each company, he thinks.

His top pick for the second half is Amax, which he bought at 16¢ in December. Amax has plans to merge with Cyprus Minerals. In addition to Cyprus shares, Amax shareholders will get stock

rewarding publicly traded warrants. Amax ADRs went up less than 2%, but the warrants, which he recommended at 25¢ then—and 34.4¢ now, are up 37.5%. The warrants are convertible into Amax shares at 300 pence until September, 1997. The British shares now sell at 230 pence. Had he bought the ADRs, the return on the entire portfolio gain would have been only one-third what it was. The stock has fared well this year, he says, because of a coal strike. Even so, says Natale, there's "plenty of room to move."

Natale wants to swap one of his holdings, medical-instrument maker Covidien, down 3.5%. Instead, he's buying

house, a Canadian computer-ser-
company that trades in the U.S.
he-counter market. The price is
HL recently turned profitable after
ng of bad contracts, says Natale.
rington came up with a combina-
f big winners and big losers. His
op stocks were Synoptics Commu-
ns, up 55.6%, which makes a key
nent of local area networks for
ters, and Nokia, a Finnish technol-
ock, up 37.9%. His big losers were
Morris, down 36.1%; Gillette,
16.2%; and Duracell, down 14.9%.
o got hammered investing in Mar-
n Newton, Mass., which, at 22, is
26.1%. The stock got nailed be-
of a weak quarterly earnings re-
But Carrington is still bullish on
mpany, and it's his top pick for the
d half. "American investors are
etely insane the way they focus
e short term," he gripes.

THE NEW WORLD. To upgrade the
lio, Carrington plans to take a 23%
n Eastman Kodak and invest the
eds in CEM, a Charlotte (N.C.)
tech outfit specializing in micro-
technology. The stock, at 9%, has
ly been out of favor but has "an
gent niche market" selling to med-
bs, the food industry, and others.
health-care trap also caught Baird
furphy. Their biggest loser was
en, which, despite getting govern-
approval last year to sell a new
al instrument, suffered with the
ry: Its shares dropped 32.7%. The
ad winners, too: Internet, which
car and truck parts, was up
And they scored 12.4% on Varian
ates, an electronics equipment
ny, even though they boldly
the stock at its 52-week high.
a midyear switch, Baird and Mur-
an to take profits on their biggest
, Rochester Telephone, up 17.4%.
vest in Time Warner, at 38%. Time
r recently established several alli-
nvolving new cable-TV technology
ltimedia computers. "An exciting
orld is emerging, and they seem
at the cutting edge," says Baird.
the second half, Baird and Mur-
well as Natale, are mostly bullish
stock market. But they warn of
ty ahead, because of concerns
rising short-term rates and higher
And Carrington thinks that care-
lected U.S. stocks will still out-
n many British stocks.

ap refuses to divine the market's
But he does venture to say that
a shift toward big cyclical indus-
panies such as Champion Inter-
l and Caterpillar that are getting
ricing power after years of de-
Vatch those stocks. The sage of
tock has spoken.

By Geoffrey Smith in Boston

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THE PACIFIC IS TERRIFIC, AND EUROPE ISN'T TERRIBLE

A Japanese rebound would not only help the Far East but also give a lift to the Continent

WHERE TO INVEST

Joe Scott Plummer was getting jittery. Last year, the soft-spoken managing director of Edinburgh's Martin Currie Ltd. began moving money into Hong Kong only to see the Hang Seng index nosedive when Beijing blew a fuse over Governor Chris Patten's proposed democratic reforms for the colony. But Plummer was undeterred. "We swallowed hard," he recalls, "and then decided to buy right through the fall."

Plummer wound up parking nearly \$250 million in the colony—and he's all smiles now. With Beijing showing a willingness to keep Hong Kong's economy out of the debate over its political future, the Hang Seng is up 29% this year (table). Indeed, with Europe mired in recession and the U.S. barely stirring, many stockpickers believe Asia offers some of the most attractive plays around. Even hard-hit Tokyo is drawing interest again. "The Pacific Basin has a momentum of its own," says Plummer. "It's creating growth."

MAINLAND HO. That growth, most stockpickers argue, is creating a welter of bargains in Asian markets. Even Hong Kong still looks cheap to many analysts. Although the Asian Development Bank expects the colony's economy to expand by 6.1% this year, stocks trade at a price-earnings ratio of 13. "This market is able to sustain a p-e multiple of 20," argues Julian Wood of Crosby Securities (Hong Kong) Ltd., who recommends China Light & Power and Hong Kong Electric.

Many analysts are scouring Hong Kong and other Pacific markets to find companies that will benefit from rising

foreign investment in mainland China. Mei-shing Chan of Nikko Securities Co. recommends Wharf Holdings, a Hong Kong property group spearheading a vast redevelopment project that will encompass nearly the entire city of Wu Han. Douglas Eu, portfolio manager for the Jardine Fleming China Region Fund, is buying Climax, a Hong-Kong based distributor of office supplies, and Lamex,

tween Beijing and London four again. Amid such concerns, money manager Plummer is now thinking of doing in some of his Hong Kong gas. But as long as China's growth continues to prod the region, few investors think they can afford to stay aloof. Indeed, many are moving back into Japan in anticipation of a recovery by 1993.

With the dollar plunging to re-

lows against the yen, 1993

investors have re-

an especially rich v-

fall in Japanese st-

So far this year, th-

Nikkei is up 46% i-

dollar terms, vs. 8%

in yen. But while sm-

analysts see the J-

apanese market pa-

for breath over t-

next few weeks, a

surge may be on t-

way. During July's

bal economic sum-

Tokyo, the U.S. m-

Europe may get

Prime Minister Ke-

Miyazawa to boost

ernment spending o-

of the \$117 billion

ready has pledge-

spur domestic dem-

NIKKEI PICKS. Con-

sidering such exp-

tions, Merrill Lyn-

Co. estimates Jap-

gross domestic pro-

will rebound 3% in

after struggling

achieve 0.6% growth

year. A pickup that fast could tou-

"a really strong rebound in profits,"

Merrill's Tokyo-based strategist,

Bahrenburg.

Such hopes prompt Kathy Ma-

strategist at Barclays de Zoete

Securities Ltd., to recommend high-

stocks including Kyocera, a ceram-

maker that's moving into telecommu-

nications. Expectations of a stronger

omy are also prompting Matsui and

fund managers to buy into such

industries as steel, railroads, and

machine tools. And although the sky-

yen is dimming the outlook for



which supplies furniture and filing cabinets to businesses in Guangdong Province. China plays abound in other regional markets, too: Eu likes South Korea's Mandia Machinery, which is opening an auto-parts factory in China, and Australia's Futuris, which supplies radiators and air-conditioner parts to Volkswagen in Shanghai.

Still, China plays are not without their doubters. Hong Kong's market has retreated modestly in recent weeks amid concerns that China's economy may be overheating. The Hang Seng could also suffer a setback if the political talks be-

year. A pickup that fast could touch "a really strong rebound in profits," says Merrill's Tokyo-based strategist, Klaus Bahrenburg.

Such hopes prompt Kathy Matsui, strategist at Barclays de Zoete & Matthews Securities Ltd., to recommend high-growth stocks including Kyocera, a ceramic maker that's moving into telecommunications. Expectations of a stronger economy are also prompting Matsui and other fund managers to buy into such cyclical industries as steel, railroads, and machine tools. And although the sky-high yen is dimming the outlook for

exports, Bahrenburg still likes Toyfiguring that it will cash in on ger domestic demand. He also recommends Aoyama Trading, an innova-men's-clothing discounter that has hammering away at "fat, estab-competitors."

Japanese rebound would give a ma-boost to a European market that ad little to cheer about for more a year. True, British profits are ed to surge 25% this year as ex-ers benefit from last year's pound uation. But in recession-bound Ger- profits will tumble 11%, says Leh- Brothers strategist Joe Rooney.

AN RALLY. Still, the pros are not loning Europe. With the Bundes- expected to push interest rates as as 3.5% by next year—half their nt levels—German stocks have ral- % since mid-May. "Maybe people et interested in investing in equi- again," says Dominique Bourjac, of research at Paris-based Detroy- associates. But Bourjac's first pick ance, which boasts low inflation and v government with a \$50 billion ization program.

urjac is buying Crédit National and t Commercial de France, medium- banks that haven't been dragged by the real-estate losses dogging

HOW MAJOR BOURSES ARE FARING

	Percentage change since Jan. 1*	
	in local currency	in dollars
HONG KONG	29%	29%
JAPAN	26	46
ITALY	23	23
SWITZERLAND	12	14
CANADA	10	10
NETHERLANDS	10	10
AUSTRALIA	8	6
GERMANY	7	8
BRITAIN	2	2
U.S.	3	3
FRANCE	1	3
MEXICO	-11	-11

*Through Jan. 4 DATA: MORGAN STANLEY CAPITAL INTERNATIONAL

their bigger brethren. She also backs the Home Depot of Europe, Castorama. And Edinburgh money manager Plummer recently moved into Imetal, a roofing-tile maker that draws 30% of its sales from the recovering U.S. market.

After three devaluations of the peseta in the last nine months, Spain is running a close second to France among money mavens. Bourjac likes Interbank, a mid-

size lender, as a play on lower interest rates. But of all the Continent's bourses, Switzerland may prove to be the biggest surprise. Hans Kaufmann, head of research at Zurich's Bank Julius Baer, sees cost-cutting and rising foreign earnings boosting Swiss profits 21% this year, on top of a 15% rise in 1992. He recommends Union Bank of Switzerland and Swiss Bank. Others recommend food giant Nestlé, which is expected to list its shares in the U.S. before long.

Jumping into equities in Europe is certain to test stockpickers' patience as well as their guts. Fortunately, Asia and other inviting spots still beckon. This year won't be one for throwing money with abandon at global bourses. But neither will it be a time to sit and wait for a full-scale global recovery to take hold.

By Bill Javetski in Paris, with Larry Holyoke in New York and David Lindorff in Hong Kong

ACTION

Look to the Orient for the best prospects. But watch out for a bump or two in Hong Kong

THERE'S STILL A HINT OF SALSA IN THE MEXICAN MARKET

f all the emerging stock markets around, few can come close to the showing by Mexico's Bolsa de Valores. Since 1991, its star performer, Teléfonos de Mexico, appreciated 261% as tens of thousands of Americans and other foreigners snapped up its shares. But has been anything but a sure win. Worries over a slowing economy and Washington's foot-dragging on moving the North American Free Trade Agreement, Telmex has fallen since January. With the phone giant accounting for a third of the Bol- value, Telmex' drop has pushed Mexican market down 11%.

Many pros refuse to abandon Mexico. They maintain that U.S.-Mexico trade will expand even without NAFTA. That President Carlos Salinas de Gortari's sweeping economic reforms continue to generate promising reform for anyone willing to stick it out in the medium to long term. Indeed, Mexico's recent drop has brought issues back to sensible levels. Telmex. Salinas' tight-money policy is expected to hold economic growth to 2.2% this year and limit export earnings. But that hasn't

short-circuited its plan to link major cities with fiber optics. Telmex now trades at a price-earnings ratio of 8, less than half that of American Telephone & Telegraph Co. "It's a great value," argues Morgan Stanley & Co. analyst Mickey M. Schleien.

WEAKER PESO? Such optimism should still be regarded with caution. New reversals could occur in coming months if Congress kills NAFTA. That could prompt investors to pull billions out of Mexican markets. Some say Salinas then might have to cave in to demands from business for a devaluation of the peso to bolster exports. But Salinas is unlikely to take such action. Devaluation might stymie his plans to reduce inflation and spook investors even more than would rejection of NAFTA.

EVEN WITH WORRIES ABOUT NAFTA, PROS SAY SALINAS' REFORMS WILL BUOY THE BOLSA

"The government has put a lot into developing international confidence," says economist Jonathan Heath of Mexico City-based consultants Macro Asesoría Económica. "Devaluation would create a big credibility gap."

With money tight at home, most analysts recommend sticking to blue chips that can raise cash abroad. Among them: cement producers Apasco and Cementos Mexicanos. Another favorite is Empresas ICA, an engineering group in the thick of road and airport privatizations. But with a presidential election looming next year, Goldman, Sachs & Co. analyst Jorge Mariscal thinks Salinas may soon cut interest rates and raise government spending modestly. That's already drawing cash to Cifra, Mexico's biggest retailer. It has a joint venture with Wal-Mart Corp. and, analysts say, is expected to grow three times as fast as the overall economy.

If Congress defies the skeptics and quickly approves NAFTA, even more money may flood the Bolsa. For some investors, Mexico's economic rebirth remains too powerful a lure to ignore.

By Geri Smith in Mexico City, with William Glassall in New York

MAYBE IT'S LAST CALL, BUT THE BOND PARTY ISN'T OVER YET

Good, safe paper is still around, and for long bonds, the time to buy is now

WHERE TO INVEST

All in all, the bond market has had a good ride in 1993 thus far. But it enters the second half nervously. In the first half, low inflation, low interest rates, and the Clinton Administration's budget-reduction plan ignited a bond rally. Then a surge in inflation numbers threw a chill into the market.

The bond rally may be ending, yet few believe a rout is under way. Most savants think the lackluster economic recovery will hold inflation close to last year's 2.9%. Says Martin J. Mauro, senior economist at Merrill Lynch & Co.: "Inflation won't be the problem it may appear to be."

Absent any more scary inflation statistics, the best guess is that the bond market will move sideways for the rest of the year. The small inflationary uptick, though, should lift short-term Treasury rates a bit—the Federal Reserve has indicated it's leaning this way—while longer maturities will likely ease (chart). Chief reason: To save on interest outlays, the Administration is halving long-bond issuance. A scarcer supply of the bellwether 30-year issues means higher prices, hence lower yields. **LADDER-BUILDING.** So the best advice is, if you want to invest in long Treasuries, don't delay. Investors who are leery about interest-rate volatility might con-

tied up the money in a five-year note (5.3%). And if some other need crops up, such as paying a big unexpected bill, you'll have a yearly stream of maturing principals.

A hot product in fixed-income land lately has been municipal bonds (page 135). Their appeal is summed up in two words: "tax" and "exempt." Despite the ups and downs of Bill Clinton's economic proposals, there's a strong likelihood that income taxes will go up. Muni bonds' performance may have peaked, but investors will likely continue to put money into tax-exempt securities.

For the yield-hungry, the once and future king is junk. These bonds currently fetch an average of 9.8%, according to Donaldson, Lufkin & Jenrette Securities Corp. While that's nothing like the double-digit yields seen as recently as last year, it's still a nice three percentage points more than comparable Treasuries. Default risk, the big fear of junk investors, has lessened as the recov-

ery progresses. "Debt-service capabilities for junk bonds are getting better all the time," says King D. Penniman, head of research at Duff & Phelps Investment Research Co.

Market sectors are improving in junk, just as with equities. A rosier outlook for natural gas raised the price of longer-term bonds of Arkla Inc. Federal plans to reregulate cable TV, though, have kept down prices on Adelphia Communications Corp. bonds of similar maturities. Adelphia is the better choice. The Courtport (Pa.) company's bonds are more, and they entail less default risk than in years past. **ON THE WANE.** Investment-grade corporate bonds are a safer bet. But the improving economy narrowed the yield spread between corporates (some of which will default anyway) and comparable

Treasuries (which never do) to a one point, vs. 1.6 points a year ago. "Spreads aren't wide enough to take the risk," says Hugh A. Johnson Jr., chief economist at First Albany Corp.

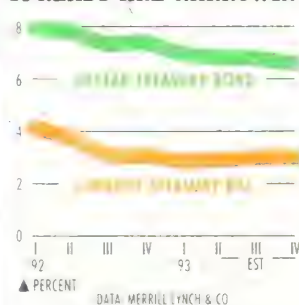
Mortgage-backed securities also have a ho-hum spread. These are pools of mortgages that the Government National Mortgage Assn. and other federal entities guarantee or insure. With interest rates steady, the boom in home-refinancing will wane. That's good for mortgage bondholders; they'll stand less chance of getting a chunk of their principal back early.

With interest rates as low as they likely will go, bond investing remains more work. But if inflation remains a paper tiger, there's little chance you'll get bitten by buying bonds.

By Larry Light, with Kelley Holliday
New York



INTEREST-RATES: SPREADS ARE NARROWING



ACTION

Think
The risk
default
abated
more
purchase
long-term
Treasury

MUNIS STILL GLOWING STRONG, BUT NOT RED-HOT

Municipal-bond offerings are everywhere—and that could crimp returns

HERE TO INVEST
Investors who loaded up on municipal bonds early this year have plenty to cheer about. Prices have risen sharply, as yields have dropped as much as half a percentage point.

the outlook for interest rates is rosier than it was six months ago. So that the prospect of lots of new issues, and returns, while likely to be solid, could fall. "I think the value of [muni] bonds bought today won't go up a great deal—but it won't go up a deal either," says Bernie Schroer, resident and senior portfolio manager of Franklin Resources' California Free Income Fund.

AFTER WAVE. "To be sure, there are lots of bullish factors still at work. Record amounts of new municipal issues have hit the market—more than \$150 billion through May alone—inflows have been snapping them up. After a wave of bonds comes over the hill, and the prices are holding," says James Cooner, senior vice-president of Bank of New York Co. Assets in municipal bond funds have rocketed to \$159 billion at the beginning of May and \$225 billion at the end of May.

It's more, muni investors can look forward to a spate of calls of higher-yielding bonds, which should leave a lot of buyers with cash to invest. L. Murphy, manager of five tax-free bond funds at Fidelity Investments, expects to see \$15 billion or more in calls by July 1. Calling bonds to raise prices on securities that

are in the market, investors start to substitute other investments.

For taxes should be well. Most muni investors are trading at a premium that are 80% to 100% of those on Treasury bonds of equal maturity. That means now, investors do well to buy municipal bonds, be-



cause their aftertax yield will be higher on the tax-exempt securities. And with taxes on the rise, a lot more investors will clamor for munis.

Certain sectors of the market look particularly appealing to the muni bulls. Fidelity's Murphy recommends bonds with maturities from 10 to 15 years, because they offer yields that are about 95% as high as those on 30-year bonds but are less volatile. Other portfolio managers are boosting utility revenue bonds because municipal utilities are borrowing less than they were in the 1980s. That makes the remaining securities more attractive. And a number of experts say insured bonds are the best

buys, because investors can pick up lots of safety while sacrificing as little as one-tenth of a point in yield.

But there's a catch—22. If interest rates stay near their current low levels, the flood of new issues should continue, which could eventually depress bond prices. States, towns, and school districts all

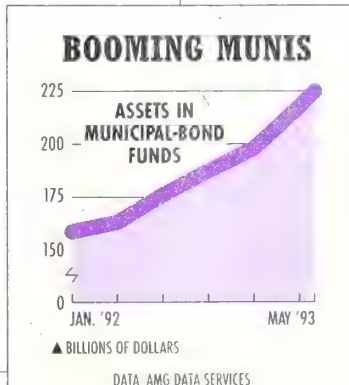
have bonds that they're itching to replace with lower-rate issues to cut financing costs, even if the old securities aren't yet callable. They are issuing new tax-exempt debt and using the proceeds to buy Treasury securities. The securities pay enough interest income to cover the interest payments the municipalities owe holders of the old bonds, and they can be sold to pay off those investors when the old bonds are callable. Meanwhile, the municipalities are left with lower interest costs on their new bonds.

More than two-thirds of the bonds issued so far this year have been used to refund higher-rate issues.

RATE PARADOX. If rates rise, new-issue volume should taper off—but municipal-bond prices are still likely to fall. Muni prices tend to move in tandem with rates on government bonds, and while experts think they'll decline more slowly—what with the increased appeal of tax-free investments if federal taxes rise—no one doubts the overall direction.

Mindful of the interest-rate paradox, a growing number of experts see little chance of avoiding ho-hum returns on muni investments for the rest of 1993. But no one's suggesting that investors abandon the market. Munis will remain one of the last, best shelters from Uncle Sam's rising financial demands.

By Kelley Holland in New York



ACTION

Best bet:
Insured munis maturing in 10 to 15 years for a good mix of yield and safety

FUNDS ARE ROBUST, BUT ARE THEY RESILIENT?

Yes, but it's tougher than ever to pick the winners

WHERE TO INVEST

It's a pattern you can almost put money on: Sooner or later, even the doggiest performers will eventually become stars. Cases in point for the first half of 1993: gold and Japan

mutual funds, the biggest losers of 1992, have turned into big winners. Precious metals funds made up most of the top 35 list, sporting a lustrous 55.4% gain through June 4. Stock funds that invest in Pacific Basin countries, especially Japan, posted a stellar 28.7%. The rags-to-riches process also works the other way. The biggest losers this year, health-care and biotechnology funds, now in the middle of their second disastrous year, topped the charts from 1989 to 1991.

Overall, equity-fund managers—and bond managers—have acquitted themselves quite well so far in 1993, though cloudy prospects for the economy and worries of higher interest rates could chill their record for the rest of the year. The diversified U.S. equity funds delivered a total return, through June 4, of 4.38%, roughly equal to the Standard & Poor's 500-stock index. That was better than all of 1992, when the average equity fund was up 6.54%, according to Morningstar Inc.

RIM RUNNERS. Stock funds racked up bigger gains than bond funds. Taxable bond funds, which include government, corporate, and international categories, were up an average 4.48%. Tax-free bond funds did even better, with 5.48%.

With such robust returns, mutual funds attracted inflows well ahead of last year's record levels. According to the Investment Company Institute, equity funds enjoyed a net cash flow of \$41.8 billion in the first four months of 1993,

vs. \$77.8 billion for all of 1992. Bond funds collected \$39.9 billion through April, vs. \$93.3 billion for all of 1992. Because of their popularity as tax shelters in the face of possible Clinton tax hikes, tax-exempt funds attracted \$15.3 billion, double that of the similar period in 1992.

Long-moribund precious-metal funds scooped up some \$660 million in the first

weighted toward Japanese stocks. As the Nikkei began a stellar rebound in March, these funds were well-positioned to catch the wave. For example, the T. Mura Pacific Basin Fund was up 28.7% on Japanese stocks at the end of the quarter, which produced a healthy rise. The rest of the fund was invested in other countries, including Australia, Hong Kong, and Malaysia. Expect to see "a gradual recovery,"

Japanese economy and gradual appreciation of the stock market," says Hiroo Sawada, portfolio manager for the T. Mura Pacific Basin Fund.

Of course, putting money in Japan funds soared more, thanks not only to the booming Nikkei but also to a stronger yen. So far this year the Japan market index was up 17% while the yen appreciated 17% against the dollar since the Japanese economy is still so battered. A 45% drop from its 1989 peak is high—there may be a long way to go. "It's too optimistic to expect the Japanese market to do again what it has just done," says David Warren, portfolio manager of the Rowe Price Japan Fund, which was up 33% in the next 18 months should be reasonable



four months of this year, compared with an outflow of \$137 million in the same period last year. But don't let that spectacular performance seduce you into buying them. Gold may well be a mere flash in the pan. Despite a brilliant quarter or two along the way, gold funds have been up a little over 1% in the past five years. The high-flying, gold-oriented Lexington Strategic Investments Fund, the first half's No. 1 fund, was up 181.82%. But it was the worst performer in 1992, down almost 60%.

A better bet than gold might be funds that invest in Pacific Basin countries. Many Pacific funds are heavily

nity to make money by buying at low prices in these sectors."

UNDERGROUND ACTION. Europe is another area that may do well going forward. Through June 4, European funds were up 8.33%. Right now, as the recession is ending, rates are coming down, and stocks aren't too pricey. The rope is still a good story. That's where the U.S. was two years ago, says John Rekenhaller, editor of Morningstar Mutual Funds newsletter.

Natural-resource funds are another big winner so far this year. Energy funds may already be topping out. The average 18% gain was achieved almost

in the first quarter and was propped up by the recovery in natural-gas prices and improved earnings thanks to cutting at natural-gas companies. Vanguard Specialized Energy Fund, which rose 34.46%, was 60% in natural-gas companies, 30% in crude-oil production companies, and 10% in refining companies. "Things in the second half will be better than the first half," with this seeing more in line with the rest of the market, says Ernst H. von Metzsch, who runs the Vanguard Energy Fund. He believes a recovery in the world economy will have a positive impact on oil and gas demand.

Placing a big bet on energy was not for no reason: the massive Fidelity Magellan Fund turned in a hefty 15.46% gain. After taking a huge position in energy stocks, such as Baker Hughes and Schlumberger, manager Jeffrey Vinik has moved into such natural-gas companies as Burlington Resources and Unocal, which he believes will be hot in the next few years. Vinik's other bet is semiconductors. His biggest positions are Texas Instruments and Motorola. Texas Instruments has gone up 15% since Jan. 1, while Motorola rose

RISKS. Although bond funds, especially corporate and government ones, were off in the first half of 1993, some taxable bond-fund categories remain strong. International funds, for instance, were up an average of 8.12%, while junk-bond funds rose an average 9.57%. Muni funds got a lot of attention from investors due to the chance of a tax hike. Remember, even though muni bond funds don't use the word "long" in their names, their portfolios consist mainly of bonds with 20-year maturities. Morningstar's Rekenthaler estimates if rates were to go up 1%, investors would lose 1% of their principal.

A better bet for risk-averse savers is intermediate muni funds, with 7- to 10-year maturities. Their 4.5% to 5% returns are below those of regular muni funds. "You give up roughly 1 percentage point by going to intermediate muni funds, but you will probably halve your volatility," explains Rekenthaler.

Volatility is a big factor in this year's uncertain economy. Focusing your investments and cutting some volatility may be the only way you can beat the averages.

— Leah Nathans Spiro in New York

1993's BEST RETURNS

	Total return*
LEXINGTON STRATEGIC INVESTMENTS	181.82%
UNITED SERVICES GOLD SHARES	81.68
VAN ECK INTERNATIONAL INVESTORS	74.45
FIDELITY SELECT PRECIOUS METALS/MIN.	64.24
BULL & BEAR GOLD INVESTORS	63.95
DFA JAPANESE SMALL COMPANY	61.86
METLIFE-STATE STREET GLOBAL ENERGY	58.99
VANGUARD SPEC. GOLD/PREC. METALS	58.43
VAN ECK GOLD/RESOURCES	58.40
THOMSON PREC. METALS & NAT. RES. B	58.27
BLANCHARD PRECIOUS METALS	57.59
LEXINGTON GOLDFUND	57.57
CAPSTONE NIKKO JAPAN	56.12
KEYSTONE PRECIOUS METALS HOLDINGS	55.53
EXCEL MIDAS GOLD SHARES	54.04
BENHAM GOLD EQUITIES INDEX	51.92
FINANCIAL STRATEGIC GOLD	51.66
IDS PRECIOUS METALS	50.72
FRANKLIN GOLD	49.06
FIDELITY SELECT AMERICAN GOLD	48.79
USAA INVESTMENT GOLD	48.50
PIONEER GOLD SHARES	47.81
UNITED SERVICES WORLD GOLD	46.34
EQUITY STRATEGIES	45.94
LEXINGTON STRATEGIC SILVER	44.78
UNITED GOLD & GOVERNMENT	42.15
VANGUARD INTL EQUITY INDEX PACIFIC	41.67
FIDELITY SELECT ENERGY SERVICE	41.51
SHEARSON PRECIOUS METALS & MIN. A	40.12
MACKENZIE CANADA	39.68
SCUDDER GOLD	37.66
OPPENHEIMER GOLD & SPECIAL MIN.	36.27
VANGUARD SPECIALIZED ENERGY	34.46
MFS LIFETIME GOLD & NAT. RESOURCES	34.43
DFA PACIFIC RIM SMALL COMPANY	34.20

1993's WORST RETURNS

	Total return*
FINANCIAL STRATEGIC HEALTH SCIENCES	-18.29%
FIDELITY SELECT MEDICAL DELIVERY	-18.12
PROGRESSIVE AGGRESSIVE GROWTH	-15.91
JOHN HANCOCK FREEDOM GLOBAL RX	-14.94
FIDELITY SELECT BIOTECHNOLOGY	-12.39
FINANCIAL STRATEGIC ENVIRONMENTAL	-11.97
MORGAN STANLEY EMERGING GROWTH	-11.59
FIDELITY SELECT HEALTH CARE	-11.35
SKYLINE VALUE	-10.86
DEAN WITTER CAPITAL GROWTH SECS.	-10.86
PASADENA GROWTH	-10.71
G.T. GLOBAL HEALTH CARE A	-10.67
ROBERTSON STEPHENS EMERGING GR.	-9.96
OPPENHEIMER GLOBAL BIO-TECH	-8.95
YACHTMAN	-8.84
RAINBOW	-7.88
FLAG INVESTORS QUALITY GROWTH	-7.74
BEACON HILL MUTUAL	-7.65
G.T. AMERICA GROWTH A	-7.36
SOCIETY EARNINGS MOMENTUM EQUITY	-7.13
REYNOLDS BLUE CHIP GROWTH	-6.97
PAINWEBBER DIVIDEND GROWTH A	-6.75
PUTNAM HEALTH SCIENCES A	-6.74
VOYAGEUR GROWTH STOCK	-6.14
VANGUARD U.S. GROWTH	-5.99
MERRILL LYNCH HEALTHCARE A	-5.96
STATE BOND PROGRESS	-5.91
BLANCHARD AMERICAN EQUITY	-5.81
EATON VANCE GROWTH	-5.77
SCUDDER QUALITY GROWTH	-5.67
SHEARSON SMALL CAPITALIZATION A	-5.65
STEINROE STOCK	-5.59
PRUDENT SPECULATOR LEVERAGED	-5.51
EATON VANCE SPECIAL EQUITIES	-5.45
PRINCIPAL PRES. DIVIDEND ACHIEVERS	-5.24

HOW THE BIG FUNDS FARED

	Assets** Billions	Total return*
FIDELITY MAGELLAN	\$24.83	15.46%
INVESTMENT COMPANY OF AMERICA	16.90	4.54
WASHINGTON MUTUAL INVESTORS	11.14	7.73
VANGUARD/WINDSOR	9.76	10.05

	Assets** Billions	Total return*
INCOME FUND OF AMERICA	\$7.80	6.44%
VANGUARD INDEX 500	7.40	4.50
JANUS	7.28	3.64
FIDELITY PURITAN	6.72	13.22
VANGUARD/WELLINGTON	6.37	6.83
VANGUARD/WINDSOR II	6.29	6.41

HOW THE FUND GROUPS FARED

SPECIALTY - PRECIOUS METALS	55.39%
PACIFIC STOCK	28.65
SPECIALTY - NATURAL RESOURCES	21.43
FOREIGN STOCK	15.78
WORLD STOCK	11.38
SPECIALTY - TECHNOLOGY	10.39
SPECIALTY - MISCELLANEOUS	7.99
SPECIALTY - UTILITIES	8.79
EUROPE STOCK	8.33
INCOME	7.96
EQUITY-INCOME	6.85

ASSET ALLOCATION	6.78%
SPECIALTY - FINANCIAL	6.02
MAXIMUM GROWTH	5.75
BALANCED	4.93
GROWTH & INCOME	4.69
SMALL COMPANY	4.27
GROWTH	3.70
SPECIALTY - HEALTH CARE	-8.55
U.S. DIVERSIFIED EQUITY	4.38
EQUITY FUNDS	7.84
S&P 500-STOCK INDEX	4.53

*Appreciation plus reinvested dividends and capital gains 12/31/92-6/4/93

** As of 3/31/93

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IN THE PROPERTY MARKET, IT'S TWO STEPS UP, ONE STEP DOWN

Housing sales are near a six-year high, but office rentals are in the basement

WHERE TO INVEST

Life after death? That's what it's starting to look like for the bloodied and battered real estate industry.

The market for new single-family houses roared back in April, with sales close to their six-year high. And while the commercial sector is still deeply depressed, vacancies and rental rates seem to have stabilized in many regions.

The best news in the real estate market can be summed up in a word: REITS. Real estate investment trusts—pools of properties that trade as stocks—spent most of the year's first half tearing up the charts and making developers, investment bankers, and yield-starved real estate investors very happy. Year-to-date, equity (property-owning) REITS, now yielding an average 6.4%, have outperformed the broader market, racking up a 14.4% return, vs. a Standard & Poor's 500-stock index total return of 4.5%, as of June 4.

FAST EXIT? REITS have run into some bad weather recently. After racing up almost 20% as of the end of March, the National Association of Real Estate Investment Trusts' (NAREIT) share price index for equity REITS has given up about 6% of that gain, and in some individual stocks, much more. Concerns over lower-quality offerings in the pipeline are rife. The specter of higher short-term interest rates has also given some investors the jitters. But real estate analysts say the recent setback is a healthy correction. "The REIT market probably overheated in the first quarter and has backed off to more reasonable levels," says S. Michael Giliberto of Salomon Brothers Inc.

With a total of \$8 billion in offerings projected for 1993, though, investors should approach REITS with greater caution. A good first step is looking into who is managing the REIT's properties. "Our industry, all of a sudden, is no different from high tech, from steel, from



autos," says Mark O. Decker, president of Washington-based NAREIT. "You're buying successful management. That's where an investor's efforts should go: Who are these guys? And what's their motivation to go public? If it's an exit strategy, you don't want any part of it."

On the home front, there's mixed news. Sales of new single-family houses jumped 23% in April. While that's an impressive increase, one month does not a trend make, says Keith T. Gumbinger, an analyst at HSH Associates, a mortgage-information provider in Butler, N.J. In March, for example, sales were down 5%. Says Gumbinger: "It's not the begin-

ning of a sales boom by means."

As for owners of existing homes, well, it's not time to call the moving van. In April, the rate dropped 2.7%, to a 3.5 million annual rate, down from a December high of 4 million. And while the average 30-year fixed-rate mortgage was 7.56% as of June 4, down from 7.62% a week earlier, analysts worry about a rise in short-term interest rates. Gumbinger expects the rates to stay in a narrow range for the summer, but he cautions that even a slight rise in rates could hurt the little growth we have in housing.

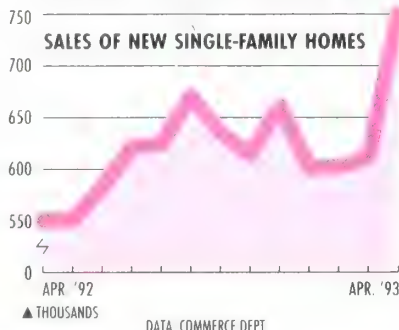
BIG BRUSH. After years of decline, commercial real estate seems to have hit bottom. Rental rates in most markets have at least stabilized," says Arthur

Wente II, president of Cushman & Wakefield Inc. The exceptions: downtown office markets in Chicago, Los Angeles and New York. Salomon's Giliberto says: "Nationally, vacancies have peaked and are on their way down." Two years from now, he adds, vacancy rates "will probably be 17% to 18%," vs. the current 20%.

No one expects real estate to come roaring back soon. With the economic recovery moving slowly, demand for real estate will be weak. "The key is that the fundamentals in employment and on the supply side appear to have finally turned the corner," says Giliberto. "That doesn't mean that everything is out of the woods, but the big brush is no longer downward." The industry whose vital signs have been virtually imperceptible, there's most auspicious development in

By Suzanne Woolley in New York

HOME SALES HEAT UP



ACT UP

REITs are... But... portfolio... are... and... manage... with... equity...

OUR COMPETITORS ARE SO CONFIDENT OF THEIR PRODUCTS, THEY GUARANTEE THEM TO LAST A THIRD AS LONG AS OURS.



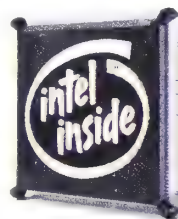
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There's a common misconception today that computers are all alike. That they're made from the same components. That a box is a box is a box.

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A BURST OF GLORY FOR GOLD

It's on a roll and may well keep climbing—for now. But the long-term outlook doesn't glitter

WHERE TO INVEST

For years now, gold bugs have formed a sort of religious cult. Almost as an article of faith, they knew gold prices would soon come bouncing back. They stuck to their guns even in the face of excess supply, large-volume sales by Russia, and low inflation.

Well, gold is on a tear—up \$45 an ounce, to \$374, in less than three months, and the gold bugs are ecstatic. Not only has the price reached a two-year high, but it also seems destined for greater glories. But how high is up? While gold bugs see \$400 as the next step of a long climb, more dispassionate analysts say the \$400 level by yearend is more the ceiling than the floor. Even so, that would be a 7% rise from today's price and a 12.4% gain from yearend.

TOUCH AND GO. The bullish case for gold arises mainly from reduced production in Russia and South Africa, increased demand from China and India, and a reborn credibility among investors. Part of that new appeal is the fear that, as the economy improves, inflation will pick up speed. But most analysts see no signs of a major surge in inflation.

So investors shouldn't get too carried away with gold. Before it reaches \$400 an ounce, the metal is probably in for a few months of touch-and-go trading. "The price was running up too fast, too soon," says Ian MacDonald, an analyst at Credit Suisse First Boston. The upshot? Through much of the summer, when demand normally ebbs, watch for gold to trade somewhere in a range between \$360 and \$386 an ounce.

Selling by governments and central banks will be critical to the gold mar-



ket. Russia is not expected to remain a seller, since the impoverished country is believed to have sold as much as 95% of its supply during the economic hardships of the past three years. And although large Canadian sales are continuing this year, selling by other central banks has fallen off. Belgium and the Netherlands, which unloaded more than 600 metric tons last year to support their currencies, have since reduced activity. But some analysts think that if prices climb above \$400, the central banks may cut off the rally by starting to sell again.

As always, gold prices are strongly affected by supply-and-demand fundamentals—and the supply picture is tight, just as demand is picking up. Consumption rose last year, to 78 million ounces, up from 53 million ounces in 1987, when gold topped \$500 an ounce. Since Russian production has ground to a halt and South African production is below normal levels, consumption should exceed production by 50%, a very favorable sign for prices. Gold bugs argue

that the price will get a further boost if President Clinton's economic policies lead to inflation. Such expectations made gold stocks stellar performers so far this year, gold bugs say. High-profile moves by major investors such as George Soros made gold a hot investment. "People who haven't ever looked at gold, or haven't looked at it for 50 years, are suddenly very interested," says Lucille Palermo, manager of the Van Eck Gold/Resources Fund.

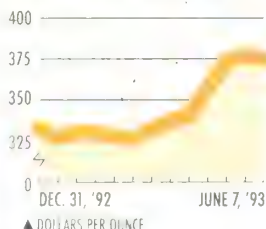
SHORT JOYRIDE. Gold isn't the only metal on the rise lately. Silver is up 17.6%, to \$4.40 an ounce, and platinum has climbed 10.2%, to \$385 an ounce. If gold keeps on rising, silver and platinum will follow suit. Silver, bouncing off 20-year lows, has moved up smartly in sympathy with gold, outgaining it. Silver production is at low normal levels, and industrial demand could pick up as the economy strengthens. But silver could move just as quickly if the gold market turns the jitters.

Will the joyride continue? The low metal has led investors on rollercoaster journeys before. Since crashing to \$875 an ounce in January, 1980, gold has twice rallied more than 70%—in 1981 and 1985—only to fall back. Both times, the rally were cut short by a decline in inflation. This time, production shortfalls may keep gold rising. But that's a fact traders have already figured into the equation, and gold hasn't moved above \$400.

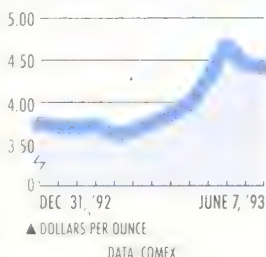
In the final analysis, as always, only a sharp rise in inflation can send gold skyward. And while inflation has bumped up recently, most economists are betting that it's just temporary. If that's the case, gold bugs' wild expectations for a rally are probably doomed.

By David Greising in Chicago

GOLD MAKES A SWIFT ASCENT...



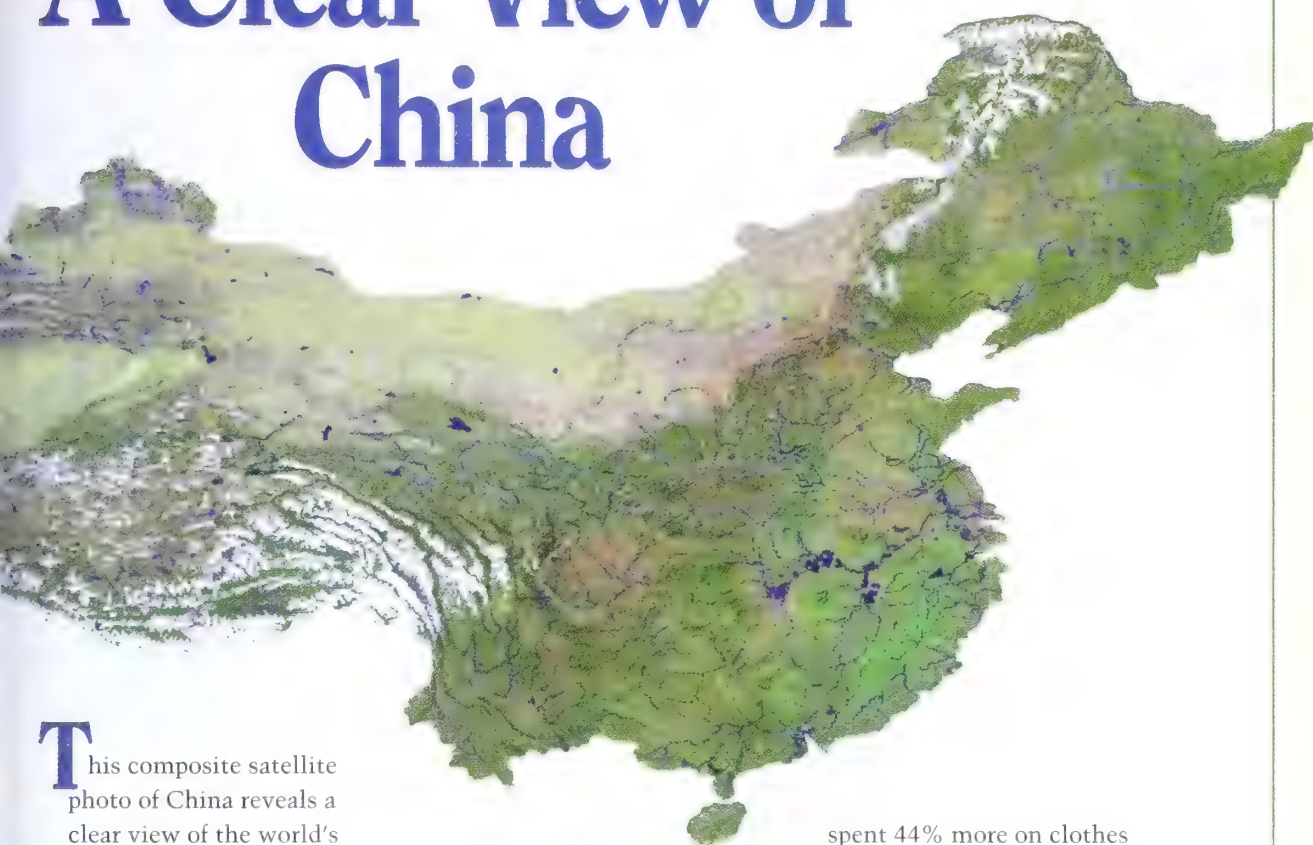
...AND SILVER CLIMBS AS WELL



ACT UP

The price of gold could rise by a further 7% to \$400 an ounce by yearend after a stay in the \$360-\$386 range.

A Clear View of China



This composite satellite photo of China reveals a clear view of the world's most populous country. At G.T. Global, we see something more: the world's largest emerging market striving to take its place in the global economy.

China's government is committed to economic reform, and the country's labor force is huge and inexpensive, with wage rates among the world's lowest. That compelling combination exerts a great attraction on foreign capital.

In fact, direct foreign investment in China in the first half of 1993 should approach \$15 billion—more than double, for example, the capital expected to flow into Mexico this year.

Foreign capital is building businesses in China as well as infrastructure projects—from airports to telephone systems—to make China more accessible to foreign companies. It's also helping China become one of the fastest growing economies in the world: industrial production grew 20% last year (versus 2% in the United States) while GDP continued to climb by nearly 10%.

Economic growth of that magnitude means that the Chinese people are enjoying a rising standard of living. In 1992, for example, they

spent 44% more on clothes and jewelry and 36% more on household appliances. Which implies opportunities for companies everywhere to penetrate the largest consumer market—1.2 billion people—in the world.

From Latin America to the Pacific Rim, emerging markets like China offer tremendous growth potential, with significant implications for local companies, of course, but also for global ones. Assessing those implications is what we do at G.T. Global, using our unique global perspective—our own clear view of the world.



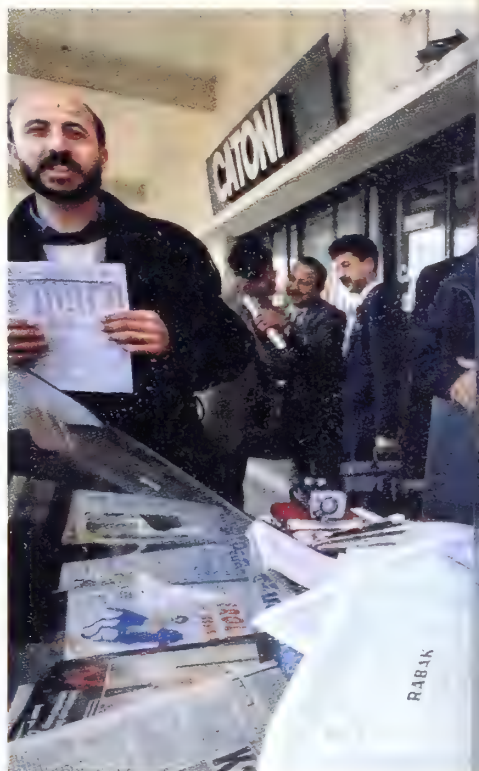
G.T. GLOBAL

STAR SEARCH

1993's Top Performers So Far



PURE GOLD STOCKS ARE SPARKLING—FOR NOW



ISTANBUL EXPRESS TURKEY'S STOCK MARKET SOARED 107% IN '93

WHERE TO INVEST

Yes, malaise is everywhere. But here and there, 1993 has been a terrific year in the markets. U.S. stocks jolted to record levels. Investors in gold have profited handsomely after a lengthy period of tedium, and oil stocks were also on the rebound. Here are the highlights of this schizophrenic year:

BEST NYSE STOCK

Western Co. of North America tops the list of New York Stock Exchange companies that began the year at \$5 or more. From January's 5%, Western shares are now at 16—a 189% increase. The company, which provides oil-field services for natural-gas producers, exited Chapter 11 in spring, 1989, and has been out of favor ever since. But last year, Western restructured its balance sheet—and fortunes—dramatically.

Eight months ago, analysts forecast a loss or breakeven for the year. Now, most expect earnings of 40¢ or 50¢ a share as operating margins improve.

BEST AMEX STOCK

Andrea Electronics Corp., a New York-based electronics company, makes noise-cancellation products, among other things. But its primary claim to fame is the noise that it's making in the stock market. By June 7, Andrea's stock was up more than 900% in the year to date, gaining as much as 51% in a day.

But many investors swiftly bailed out, and the stock's roller-coaster ride is far from over. Speculation by small investors appears to be at the root of the sharp moves in Andrea stock, which is about 50% closely held.

BEST OTC STOCK

Houston's Kelley Oil Corp. has rocketed to the top of the NASDAQ listings, climbing 260% since the beginning of the year, from 7¢ to around 27. That's because Kelley has found what looks to be a monster gas well—an "elephant," in industry parlance—in a marsh in south-west Louisiana.

"They probably have one-tenth of this year's U.S. gas discoveries in one well,"

says analyst David Snow of Energy Equities Inc. in Wayne, N.J. By then, Kelley has completed exploring the 3-mile tract around the well, the reserve could be triple that. "It's a commodity maker—probably in excess of a trillion cubic feet," says Snow. He believes stock may hit \$50 if this well, Gas #2, pans out.

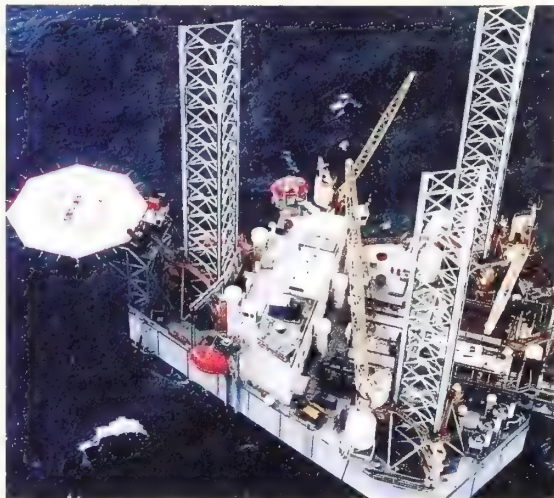
BEST STOCK GROUP

Stock in gold companies has jumped this year, well above the 12.4% for bullion. It's enough to make gold shares the most attractive investment sector so far in 1993.

Shares in gold companies such as Newmont Mining, Homestake Mining and Placer Dome have led a market of gold companies. There's probably a slight correction in store—from late August, says Kempner Securities Group Inc. analyst Vahid Fathi. "People can try to build positions on price markdowns rather than just buying stocks," says Fathi. If gold can continue their rise this fall, it could be a long, expensive chase.



LOW SWEET
FROZEN ORANGE
JUICE FUTURES ARE
GETTING HOT



GUSHER
WESTERN CO.
LEADS THE
NYSE WITH
189% GROWTH



Andrea

POWER SURGE SMALL
INVESTORS HAVE BID
ANDREA UP-WAY UP



MIDAS TOUCH CAESAR BRYAN'S STOCK
FUND WAS GOOD AS GOLD

STOCK-FUND MANAGER

ing money in gold stocks was as making a mud pie this year, but M. P. Bryan, manager of the Lex Strategic Investments fund, near-dled his money—a 182% gain that ar and away the best stock-fund mance of the year to date. Bryan that off by a savvy bet on long-ssed South African gold shares. old prices continue their above-rformance, the fund will obviously loing well. But bear in mind that nd declined 60% last year, when rices were on the wane. And concedes that his fund can be as e on the downside as it has been upside. "Volatility," he observes, v-way street."

OND-FUND MANAGER

E. Nocera is on a hot streak. In ne months on the job, this for-ternational Monetary Fund econ-and his team have steered the lobal High-Income fund to a near-total return in the year to date.

He has done so by investing in the most sophisticated realm in fixed income: debt of less-developed countries.

Nocera has been buying Latin Amer-ican debt heavily, notably that of Brazil and Mexico. Since most of this debt is dollar-denominated, fluctuations in the dollar are not a major factor in the fund's performance. But the 38-year-old Nocera concedes that such top-drawer performance will be tough to sustain for the remainder of the year.

BEST OVERSEAS STOCK MARKET

Turkish stocks have zoomed 107% in local currency and an impressive 76% in dollars, making the Istanbul Stock Ex-change the best-performing overseas market of 1993 thus far. The stellar showing reflects the Turkish economy, which is growing at a 6% clip. Company profits this year are soaring—at the same time that interest rates are start-ing to come down.

Despite the recent runup, many big Turkish companies are still selling at a relatively modest 10 times current earn-ings. One big problem remains inflation,

running at a numbing 70% a year. Still, "the Turkish bull market can continue," says Steve Bates, who manages invest-ment in European and emerging mar-kets for London's Fleming Investment Management.

BEST COMMODITIES FUTURE

Most folks prefer fresh-squeezed, but traders in the pits like it frozen. Fu-tures contracts in frozen concentrated orange juice climbed 27% in the year to date, from 87¢ to \$1.10 a pound, the best performance of any similar com-mmodity so far this year.

True, the orange crop was the sec-ond largest in 23 years. But traders had feared an even bigger crop before the March storm caused production to fall sharply, explains Sandra Kaul, analyst with Shearson Lehman Brothers Inc. As for the rest of the year: If weather problems crop up, OJ could squeeze out as much as \$1.40 a pound, providing even more juicy returns.

By Gary Weiss in New York, Peter Burrows in Dallas, David Greising in Chicago, and John Rossant in Rome

A MIXED BAG OF TIPS FROM THE BULLS AND THE BEARS

From underwear to biotechs, these stocks caught the eye of market mavens

FRUIT OF THE LOOM: REALLY A PLUM?

WHERE TO INVEST

When shares of Fruit of the Loom cracked by about 12%, tumbling to 31 a share from 37 on June 3, money manager Ed Walczak, who was in Zurich visiting clients, quickly got on the phone and bought a bundle. Fruit of the Loom had been one of the stocks Walczak had told clients he would want to pick up after it had been severely smashed.

"Fruit of the Loom is among the companies that manufactures widely recognized brand-name products but is getting battered in the current extremely edgy market," says Walczak, who runs the U.S. equities portfolio at the Swiss bank Vontobel.

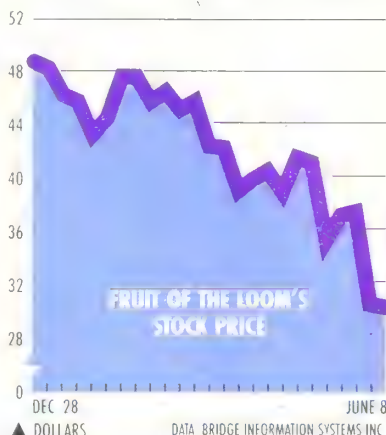
True, analyst Deborah Bronston at Prudential Securities has been cutting her 1993 and 1994 earnings estimates for Fruit of the Loom, America's largest maker of men's and women's underwear. Bronston trimmed her 1993 figure to \$2.85 a share from \$2.95, and her 1994 estimate to \$3.35 from \$3.45. Bronston says inventory at the company's mills increased because of slower sales, and this has put downward pressure on underwear prices.

But that is only a short-term concern, she explains. For investors willing to look beyond 12 months, Fruit of the Loom "offers one of the best opportunities to buy a quality company," she says. The "low-cost plants, strong brand franchise, and aggressive marketing tactics," should make Fruit of the Loom "a long-term market winner," asserts the analyst.

This long-term scenario is what's fueling Walczak's optimism. The shares' sharp pullback "is a terrific opportunity to get into the stock at the right price," says Walczak. He sees the stock hitting 50 over the next 12 to 18 months based on a 15 p/e multiple.

A portfolio manager at Neuberger &

THE TIME MAY BE RIPE



Berman who has a big position in the stock is also betting that the underwear maker will be a rewarding long-term investment. "Fruit of the Loom offers private-label pricing on its name-brand products, and it remains our single best investment idea," he insists.

BAD PRESS FOR A BIOTECH

SciClone Pharmaceuticals was holding its own despite the debacle that has torpedoed the biotechs. SciClone's stock was trading at 7½ a share when the company was featured in this column a year ago for its exclusive marketing rights to Thymosin Alpha 1 in Latin America and Asia, where hepatitis B is prevalent. The company claims that Thymosin is a most effective treatment for hepatitis. The stock soared to a high of 22½ by the end of 1992. But now it may join its fallen biotech brethren because of questions raised about SciClone Pharmaceuticals' studies, as well as the market potential of Thymosin Alpha 1.

"SciClone's dependence on a single drug candidate leaves little room for error," warns Evan Sturza, editor of *Sturza's Medical Investment Letter*.

The company's current market cap of about \$280 million—the 12th-largest among the biotechs—could "plummet on any disappointing news," he says. Since Sturza's warning, the stock has dropped from 16 on June 1 to 8. He claims the stock could go all the way back down to 8. Here's why:

Sturza calls "misleading" SciClone's claim that Thymosin Alpha 1 has had a 75% remission rate in its own clinical tests. He points to an editorial in a medical journal called *Hepatology* which contends that the "study design" which the 75% remission rate is based on "is significantly flawed, and this hampers interpretation of the data."

Sturza also insists that the number of hepatitis B carriers worldwide is "infinitely smaller" than the staggering 300 million reported by SciClone. "80% of the treatable patients live in China, India, and Africa and don't have the means to pay \$5,000 for a six-month course of therapy," he adds. Assuming that Thymosin's recent phase 3 studies are successful, says Sturza, the drug faces competitive threats from other treatments, such as alpha interferon, which is already on the market.

WHAT AGNELLI LIKES IN AMERICA

Want to know what companies the Agnelli empire, which owns Fiat, among other companies, has been buying in the U.S.? Take a peek at what Agnelli's investment chief in the U.S., Giovanni Botta, has been pursuing: In the past two years, he has acquired a portfolio giving it sizable bites into at least 18 companies, some of which are in communications, financial services, and entertainment. Botta is president of IFINT-USA, the investment arm in the U.S. of IFI (Istituto Finanziario Italiano), a multibillion-dollar Italian holding company led and controlled by the mogul Giovanni Agnelli.

"We are in a new cycle of purging controlling interests in well-margined

panies in the U.S. that offer a combination of long-term economic growth and stability," says [Name]. Of the publicly held companies IFINT has already taken a stake in, most notable include Fleet Call, a owner and operator of special-mobile radio systems; General Nutrition, a large 1,300 chain retailer of vitamins and nutritional supplements; Kendall International, a maker and supplier of medical supplies for hospital and health-care-service providers. IFINT, which manages a \$1.6 billion diversified portfolio of income-producing assets, has a 5% stake in Fleet Call, trading at 24, up sharply from 10 in early 1992. Although still in the red, narrowed losses for the year ended Mar. 31 to \$9.6 million, vs. last year's \$28 million loss. One money professional says that over the next 12 to 18 months, the stock will be worth \$50. General Nutrition, which went public 18 months ago at 20 a share, has risen to 34. The stock has more difficulty to go on the upside, says one analyst, who is impressed by its continued sales growth. IFINT has taken a strong interest in General Nutrition. Kendall has also been a big winner. It bought into the stock at 10 in late 1991. Although it has jumped to 32, one analyst sees it hitting 45 over the next 12 months. Kendall posted a profit of \$1.5 million a share in the first quarter ended Mar. 31, vs. a loss a year ago.

PORTFOLIO ID STOCKS

Investment adviser Steve Leeb is warning investors to beware of the market pullbacks. Leeb, editor of the market newsletter *The Big Picture*, thinks that in a market decline the mutual-fund investment community will be battered. Their shares enjoyed a long, sharp climb over the last 18 months as low interest rates and a lack of investment alternatives led investors to plow their money into stock and bond funds. Most of these investment companies derive the bulk of their income from investments in assets under management. As the asset base will shrink and their fees will drop when the market falls, warns Leeb. "They have become overpriced," he adds. Leeb's been shorting shares of mutual industry leaders Franklin Resources, whose stock has shot up in the early part of this year from 22 3/4 in mid-1992. Rowe Price Associates, which peaked at a high of 51 in early January



LEEB: MUTUAL FUNDS ARE "OVERPRICED"

from 34 1/4 in early 1992; and United Asset Management, which hit 42 on June 2, from 22 in mid-1992.

Earnings at Franklin, now trading at 37, have slowed in the past several quarters, notes Leeb. He expects the stock to drop to 27. T. Rowe Price, now at 45, should fall as low as 30, he figures. And United Asset, still up at 40, should hit the ground at 25, says Leeb.

CAPITAL GAMING'S HAND LOOKS GOOD

Remember Jack Davis of Resorts International fame? As its president and CEO in the 1970s and 1980s, he built up that Atlantic City casino-hotel into one hot property. As a result, the stock zoomed from 1 1/2 a share to 200 in about four years. This was before Merv Griffin outbid Donald Trump in 1988 to buy Resorts at 36, after it fell from grace. Well, Davis is back in the gaming business, this time as chairman and CEO of Capital Gaming International.

Davis concedes that he probably can't duplicate Resorts' phenomenal feat in the stock market. But already, Capital Gaming's stock is coming on like gangbusters. It leaped from 1 1/2 a share in late December to 11 in early June, before easing to 8 on June 8. That's quite a performance since the company, formerly a publicly traded gaming devices company, has yet to post any kind of earnings.

No matter, says one New York money manager, who has been buying shares. "Davis has a lot on Capital's plate, and once he gets any one of the projects off the ground you will see

that company fly," he says. Davis himself is exuding optimism. "We'll be busy as the designated operator of casinos for several Native American tribes in California, New Mexico, New York, Oregon, Rhode Island, and Washington."

Davis is also high on a joint venture Capital formed in Louisiana with Republic Corporate Services of Shreveport to build and operate a riverboat casino. Davis has filed for a license for Capital to run such an operation in New Orleans. "Our chances to get the license are even," he says, adding, "We're pursuing opportunities in riverboat and Indian gaming which offer the best bets in the business."

SLIPPING INTO CANDIE'S SHOES

Candie's isn't about candy but shoes—young women's athletic and fashion footwear. Some investors believe that buying Candie's shares now would be an opportunistic way of getting in on the ground floor of the surging shoe business. Currently trading at 4 a share, the stock of this recently restructured shoe company "could double in a year," says Cynthia Buckwalter, an analyst at Whale Securities, which underwrote a recent public offering of Candie's shares at 4.

One reason, says Buckwalter, is that entrepreneur Neil Cole, brother of shoe entrepreneur Kenneth Cole, has regained control of the company after having sold it in 1986 to a British company for some \$50 million when Candie's sales had reached \$130 million. But sales have since deteriorated—and Cole paid just \$4 million to repurchase it last year. Cole has now refocused Candie's to reestablish its presence in the shoe market. The company doesn't make shoes but designs them and then has them made to exact specifications in Brazil, China, Italy, and Korea.

Buckwalter says Candie's represents the "best turnaround story in the shoe business today." She expects earnings of 12¢ a share for the year ending Jan. 31, 1994, on projected sales of \$24 million, vs. a loss in fiscal 1993 on sales of \$5.8 million. In fiscal 1995, the analyst sees earnings jumping to 50¢ on sales of \$30 million.

Cole says that sales could, indeed, hit more than \$20 million and then double the following year. "We will be in the black by the end of the December quarter," says Cole, who is thinking of also using the Candie's name in jeans and other forms of apparel.



A major strike once seemed likely. Now, the mood is conciliatory

DATA BUSINESS WEEK

to keep a lid on costs, all the car companies want lower wages for some time. UAW members now earn an average of \$17.50 per hour, excluding benefits, GM's Smith told union leaders in a meeting that he wants to pay workers at least the same as the company's struggling parts divisions. Last year, members of the International Union of Electrical Workers agreed to a similar wage agreement at a GM plant in Moraine, Ohio. And Ford officials say they will announce a plan that would start newly hired workers at less than full wages and benefits, then gradually ratchet them up over 10 years.

UAW President Owen F. Bieber and other union officials adamantly oppose the two-tier structures. However, new hires already begin at 85% of full wages and only get to 100% after 18 months. Some union leaders privately acknowledge there may be room to negotiate that program if the car companies offer something attractive in return.

Health care may be the touchiest issue. No one in Detroit expects the Clinton administration's overhaul to be in place by September. So Big Three executives are desperately looking for ways to offset health-care costs that now average a staggering 20% of payroll. They have reduced benefits for white-collar workers and retirees and have demanded that UAW members would be responsible for their own health care. However, at the union's national convention in Detroit in April, Bieber told carmakers to back off, "unless we're looking for a strike."

DEMANDS. There may be a middle ground here, however. While carmakers may not get the co-payments and deductibles they crave, the union will absorb most costs. A pilot program in Arlington, Tex., that coordinates treatment for workers with emotional problems has saved more than \$300 million if rolled out companywide, says Yokich. And executives might ask the union to discontinue each worker's automatic wage-increase, which could equal a monthly premium payment of \$8.50 per worker. Such deals have resulted in bitter talks. The companies also will have to get union members into cost-managed-care programs, such as health maintenance organizations, off-site medical centers.

One of the union's stickiest decisions is picking a strike target. Typical UAW pegs one of the Big Three as the target in late August and uses the resulting pact to set a pattern for the next two years. GM's woes seem to make it the most likely target, since the company is in a state of near-poverty. And many union leaders argue that Ford's strength makes it easier for the union to strike a deal there. Ford might be willing to offer veteran workers lifetime job



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security in return for concession health care and wages for new hire.

But this tactic is risky. If Ford agrees to job guarantees that GM won't swap, GM could end up with a crippling surplus where both sides lose. The same problem could arise if the UAW negotiates first with Chrysler Corp. Just as in the union's best bet may be to settle its gripes first with the No. 1 auto maker.

By David Woodruff in Detroit

CALL HIM PEACEFUL JACK SMITH

General Motors CEO Jack Smith has played a key role in smoothing the company's rough relations with the UAW. By talking straight and keeping his word, the soft-spoken Massachusetts native has earned the respect of many union critics, including Steven P. Yokich, head of the union's GM department. "I'm very pleased with the relationship," Yokich, who often contacts Smith directly about a union problem, bypassing Gerald A. Knechtel, GM's top labor-relations executive. That's in stark contrast to early 1992, when communications between the two sides virtually came to a halt.



Smith has reached out to union leaders as well. In February, he invited 400 union officials in suburban Detroit in the first such meeting held by a GM CEO. Smith spoke of the company's precarious financial state, asked the union for help turning things around, and opened the floor to questions.

Smith gave a telling example of his willingness to listen when he responded to one query on the spot. Wray McCalester, then shop steward of Local 2209 in Fort Wayne, Ind., complained that workers transferred to new locations often had to wait two weeks or more for checks for relocation expenses. Some had to sleep in the union hall or their homes. Smith ordered quicker reimbursements, and the timing was changed before the meeting ended. The brand of hands-on problem-solving will likely help bring a timely settlement this fall.

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DON'T KNOW MUCH ABOUT MULTIMEDIA?

Your kids soon will—if Jostens can sell schools its new software

If you're over 18, you probably remember Jostens Inc. They're the folks who showed up at your high school in the fall to sell you the class ring that you probably haven't worn since graduation. In the spring, they were back, pitching pictures, yearbooks, and graduation caps and gowns.

With high school enrollments declining, the 95-year-old company might have been in deep trouble by now. But it has managed 10% annual revenue gains for the past 10 years by pushing down into elementary schools and into a fast-growing new market: educational computers and software. Starting in 1984, Minneapolis-based Jostens began snapping up companies with technology to teach the basics to the K-6 set. In the late 1980s, it established a separate subsidiary, San Diego-based Jostens Learning Corp., now a \$240 million company and the na-

tion's largest seller of educational software to schools. And, thanks to investments in promising technology, Jostens Learning is now poised to ride a multimedia wave into classrooms.

If it recovers from its current digestive problems, that is. Last year's \$102 million buyout of competitor Wicat Systems Inc. gave Jostens Learning more than 60% of the market for so-called integrated learning systems (ILSS), computer networks that deliver math, science, and history lessons and track students' progress (chart). But that concentration led to a Federal Trade Commission review, which delayed the deal by five months until last August. That was too late for Jostens to combine operations for the 1992-93 school year.

That meant missed sales for the subsidiary. As a result, the parent's revenue for the year ending June 30, will be up

"only by a minuscule amount" from year's \$924 million, restated to include Wicat, says CEO and Chairman H. Lurton. Earnings, he says, will drop 25%, to \$45 million, partly because of high costs and slow sales at Jostens Learning and a loss in yearbooks. Yet that news hit in April, Jostens Learning dove 25% in a single day, to 19, where it lingers.

To recover, the computer and software subsidiary is now gearing up for next fall—when its technology investments may begin to pay off. Jostens will start equipping classroom networks with technology for full-motion video, the last step toward interactive multimedia. "There's no software company out there along with Jostens in incorporating digital video into its products," says James W. Breyer, a venture capitalist with Accel Partners who has backed some of the same high-tech companies that Jostens does.

FISHY BUSINESS. Sound, animation, and video are more than techie bells and whistles. They may be what's needed to capture the attention of today's multimedia-immersed kids. "We have to be more engaging than Nintendo," says Jostens Learning chairman and CEO James W. Kernan. He believes that kids learn better when they see evidence that a subject matter relates to the real world.

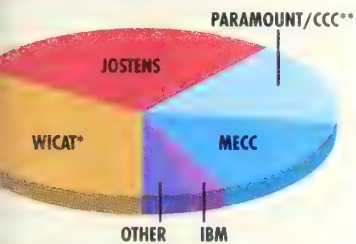
Math will be Jostens' first curriculum setup to incorporate video. For kindergarten, the new system presents a computer screen a marine biologist, asking kids to sort pictures of fish by color and shapes. For first-graders, the software shows students videos of classroom activities, such as lunch, and that they be arranged in the correct sequence. In fifth and sixth grades, a city is used to illustrate time and distance problems, such as calculating fuel efficiency. "The kids are taken by it," says Donna Turner, a teacher testing the setups with first grade at Rolling Hills School in Rancho Buena Vista, Calif. "They're eager for technology, and at a very early age."

Jostens' multimedia systems rely on technologies acquired through several investments. The new Jostens products aren't CD-ROM disks with a few snippets but offer hours of footage integrated into a curriculum package. A central server computer that stores video and sends it over networks came to Jostens through its 11% stake in Starlight Networks Inc. in Menlo Park, Calif. Starlight is also backed by Nynex Corp., which wants to add voice mail. For software that sends full-motion video, Jostens competes with MediaShare Corp., a Carlsbad,

ny hoping to sell multimedia gear
s staffs. "We wanted that technol-
st for kids," Kernan says.
timedia could produce a growth
n classroom technology. The mar-
ILSS, at \$480 million during this
year, will grow to \$750 million
96, forecasts Simba Information
Wilton (Conn.) market-research
n addition to the multimedia push,
n is expected from broader use of
ups. Since the 1960s, schools have
ederal Chapter 1 funds, money
rked for disadvantaged kids, to
remedial learning systems. That's
ost ILSS "have been used for rote,
nd-practice activities," says Glenn

THE KING OF LEARNING SOFTWARE

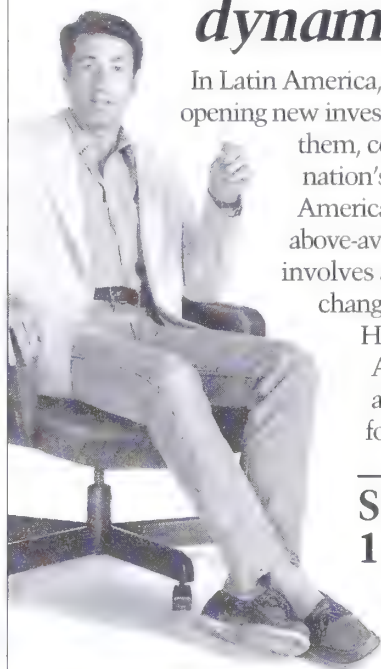
INSTALLED BASE OF INTEGRATED LEARNING
SYSTEMS IN SCHOOLS, 1992-93 SCHOOL YEAR



DATA: QUALITY EDUCATION DATA INC.

, a Simba Information analyst.
his point, only 9,000 of the more
,000 U. S. elementary schools use
e from Jostens. But the number
ump quickly if the technology
ainstream. "The impetus now is
the technology toward the core
um so it can take the place of
ks," Sanislo says. ILSS are still
more than \$150,000 for a typical
lent network. Jostens' pitch to
apped districts includes studies
ng that students retain more
ey learn "interactively"—doing
uggested by the software.
folks at Jostens Learning have
incentive to restore revenue
The 2,000-employee unit has re-
15% of its shares for employee
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company can really gain an
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ger payoff later. Jostens' ulti-
rget is the home, where kids
homework on interactive cable
h 500 channels coming into the
ou can bet that you'll have the
istrict channel," Kernan says.
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Larry Armstrong in San Diego

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gizmos you didn't sell last year."



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AMERICA ONLINE IS HOOKED UP FOR GROWTH

Investors are betting it will be a winner in digital media

The "on-line bug" bit Stephen M. Case in 1982. The consumer marketer for PepsiCo Inc. was amazed at the near-magical process of sharing news and data with other personal-computer owners, but he was frustrated by all the tinkering. If on-line services were easier to use, he figured, they could be a gigantic market. So, in 1985, he set out to start his own user-friendly, electronic community.

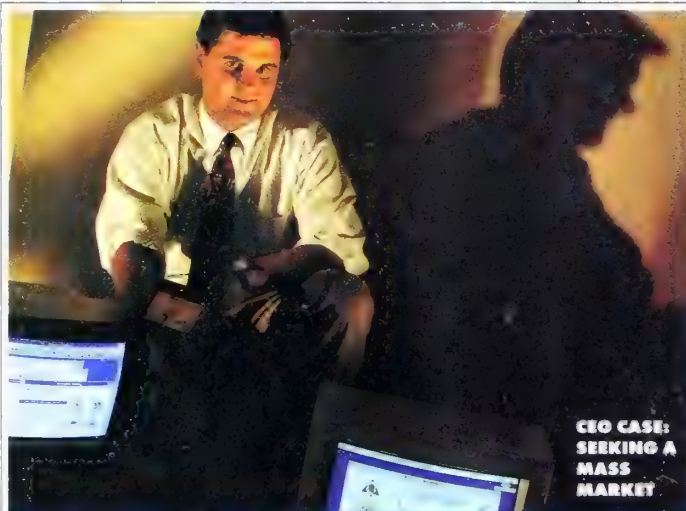
Today, America Online Inc. (AO) is a \$26.6 million company that investors—including Microsoft Corp. co-founder Paul G. Allen—figure will grow far bigger as information networks become part of everyday life. Since its initial public offering in March, 1992, the Vienna (Va.) company's stock has nearly tripled, to 33. Rick J. Martin, a senior vice-president for Chicago Corp., says AO sales should hit \$38 million in the fiscal year ending June 30 and \$55 million next year. Allen currently has a 24.9% stake in the company, part of his plan to invest in companies that may benefit from a new burst of digital communications.

THE FORMULA. Case says AO is in the right place at the right time because of its strategic alliances with important partners (table). Indeed, the company's initial success came from a deal in 1985 with Commodore International Ltd., at the time the leading maker of home computers. AO, then called Quantum Computer Services, proposed an exclusive on-line service for owners of Commodore computers. That gave Commodore a way to differentiate itself from rivals, and Quantum gained access to thousands of Commodore's customers.

The formula worked. Within two years, Quantum's revenues were \$9 million, and it was profitable. Similar deals followed with Tandy Corp. and Apple Computer Inc., boosting Quantum's sub-

scriber base and forging important connections, says Case, now 34.

Such connections continue to pay off. At the Consumer Electronics Show in early June, Casio Inc. and Tandy introduced versions of their jointly developed "personal digital assistant" (PDA), called Zoomer, a notepad-size device that will offer fax, electronic mail, and other communications. Because of Tandy's links with



CEO CASE: SEEKING A MASS MARKET

THE POTENTIAL PAYOFF FROM SAVVY DEALS

SPRINT America Online members get lower rates for logging on over Sprint's Network. Sprint has warrants for 450,000 AO shares.

TANDY/CASIO America Online gets the lead in offering on-line services to buyers of Zoomer, a forthcoming personal digital assistant.

APPLE COMPUTER Apple will pay royalties to use AO software in a global network called AppleLink.

VARIOUS PUBLISHERS Specialized versions such as CNN Online and Chicago Online, a venture with the *Chicago Tribune*, give America Online a bigger market.

DATA: COMPANY REPORTS, BUSINESS WEEK

AO, these capabilities were easily incorporated into Zoomer by using a specialized version of America Online software, says John J. McDonald, president of Casio. Apple's Newton PDA—expected to be officially introduced in August—may gain capabilities similar to Zoomer through a deal to use AO's software. "We want to establish a preemptive position in these new access devices and in some of these new conduits," said Case.

The potential for a mass market of information consumers is what caught Allen's attention. Since leaving Microsoft in 1983, he has funded startups that are developing multimedia products and interactive services. Allen bought America Online stock in the IPO and in 1991 filed a letter of intent with the Securities & Exchange Commission indicating plans to acquire more. Case declined to comment on rumors that Allen was on a board seat. However, Case says he is talking to some of Allen's companies to develop interactive, multimedia services.

AN EDGE? An alliance with a billion-dollar investor with a multimedia vision will come in handy now. Prodigy Service Co., the 2-million subscriber IBM-San Jose Roebuck & Co. joint venture in online information, recently demonstrated an interactive service that could run on cable-TV systems. Prodigy claims that its nine-year investment of over \$100 million of millions of dollars in a vast computer network will give it an edge over other companies jumping into interactive services. Case disagrees. Rather than building its own network, Prodigy has used public networks such as Sprint's SprintNet or British Telecom's Tyne. This, he says, will make it easier to shift to new services such as cable TV, a move that he says he is currently contemplating.

While interactive cable holds out the promise of a huge market by the end of the 1990s, there's still a lot of potential among today's PC owners. An estimated 10 million PCs are equipped with a modem, but only a third use on-line services in the near term it's a battle contest between ComServe Inc., a unit of Block Inc. that has 1.1 million subscribers, Prodigy AO—with 285,000 subscribers—and Genie Service, a unit of General Electric that has 400,000 subscribers. The big story this year is more services and

software, including a shift to Microsoft Windows. "At the end of the day, the difference between who's successful and who's not is going to be what kind of service they're offering to customers—how easy and fun it is to use, and how affordable it is." Just as it was, Case started logging on a decade ago.

By Paul M. Eng with Evan I. Scheraga in New York and Edward C. Blum in Chicago

Just Below California.

According to Site Selection magazine, we're ranked fifth in the nation for new plants and expansion, and number five in long-term rankings.

CALIFORNIA
ALABAMA

Where exactly is Alabama?

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Alaska
Missouri
Tennessee
Alabama

Not Far From Alaska.

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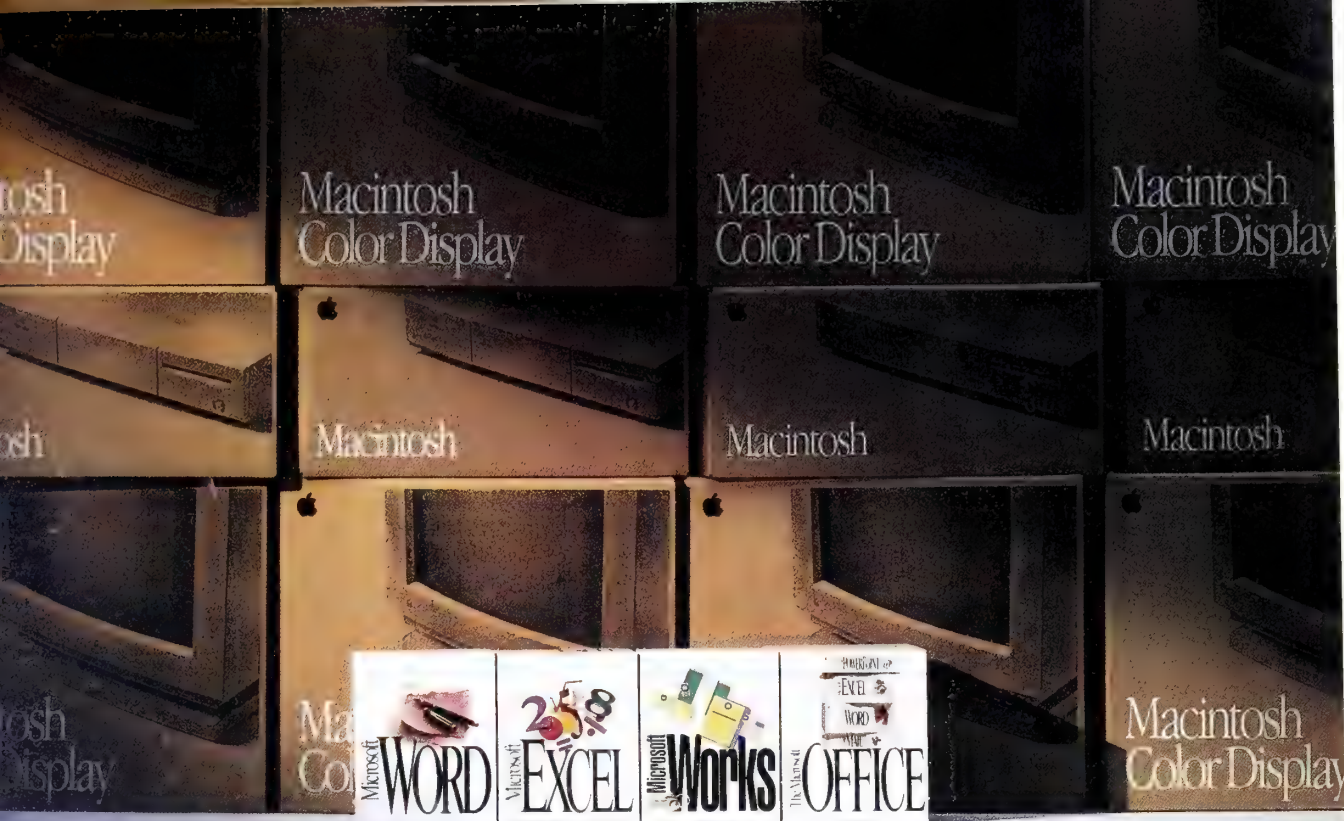
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**WHAT IS IT THAT MAKES
USING THE MACINTOSH SO EASY?
IT'S THE LITTLE THINGS.**



You've got letters, sales charts
those presentation slides
Friday that still aren't finished.
You're thinking it's about time
simplify your life with a computer.
I call. Maybe you're think-
Macintosh. But you might not
e that a big part of what
s the Mac[®] so easy is the soft-
programs you choose.
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refining and developing a line
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tent and downright friendly.
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users. We gathered your sug-
ers. We watched how you
We even created a Wish Line

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thing you'd like, we're sure to hear
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GETTING WORK TO GO WITH THE FLOW

"Workflow automation" can smooth the kinks in your operation

Unless you've been asleep for the past couple of years, you've no doubt heard of "reengineering the business process." It's the big buzz in management circles, a call to rethink thoroughly and rebuild the work of companies—from how products are designed to how orders are filled. And the accent is on thoroughly: "Don't automate, obliterate," urges Michael Hammer, reengineering's most famous proponent.

Easier said than done. Even if they

the creation of a document such as a marketing plan. First, research reports, memos, letters, and other relevant papers are gathered. Data are pulled from computer data bases. Then, a first draft is written, which embarks on a long, twisted journey from one desk to another for review, editing, reediting, illustration, and approval. At each stop, the document may wait for hours or even days. As a consequence, according to Delphi Consulting Group Inc. in Boston,

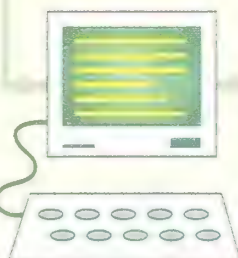
should get the information next, cutting the travel times, and avoiding routing. The system can also be programmed to send documents along different paths, depending on content: check request exceeding \$5,000 go to Alice for approval, others to (table). Some workflow packages, by maintaining a central data base, tracks each document's location along its specified path. Others provide of electronic envelope to guide each document through the e-mail system.

EASIER AND CHEAPER. Workflow is a relatively small niche in information technology. Delphi figures U.S. companies will spend about \$710 million on workflow next year—one-third for consulting services and the rest for software. But the business is attracting competitors, from tiny startups such software giants as Lotus Development, Microsoft, and WordPerfect. In addition, hardware heavies such

HOW IT WORKS

As more information is embodied in electronic forms and other computerized documents, workflow management systems can automate the information's movement from person to person. The payoff is fewer errors and higher productivity.

1 An employee fills out a "smart" expense form on a computer.



2 The form routes itself over a network to the appropriate manager for initial review. The form's arrival triggers the retrieval of employee files that may also be needed.



3 Everything checks out, but because a payment of more than \$5,000 is involved, the form automatically moves to an upper-level manager for special review.

4 Upon final sign-off, the form sends a copy of itself to another computer, which cuts a check. Also, an electronic note is sent to remind the employee to pick up the check. The form then stores itself on an archival laser disk.



want to, most companies can't radically reengineer for fear business will grind to a halt. But there's a less drastic way to achieve many goals of reengineering: It's called workflow automation, and it is both an analytical approach and a type of software. It begins by examining how documents, business forms, and other information wend their way through an organization and among businesses. This pinpoints bottlenecks and outdated procedures that slow things down and add to costs. Once new routes are laid out, workflow software is installed on computer networks to convey information instantly to the right desk—whether it's a digital image of an invoice or an electronic-mail query from a customer.

WAITING GAME. Substituting the network for the mail cart is a first step in improving the flow of work, because in just about every office, information spends most of its life moving from desk to desk, waiting to be used. Consider

gathering and transferring paper documents makes up as much as 90% of the time needed to finish typical office tasks.

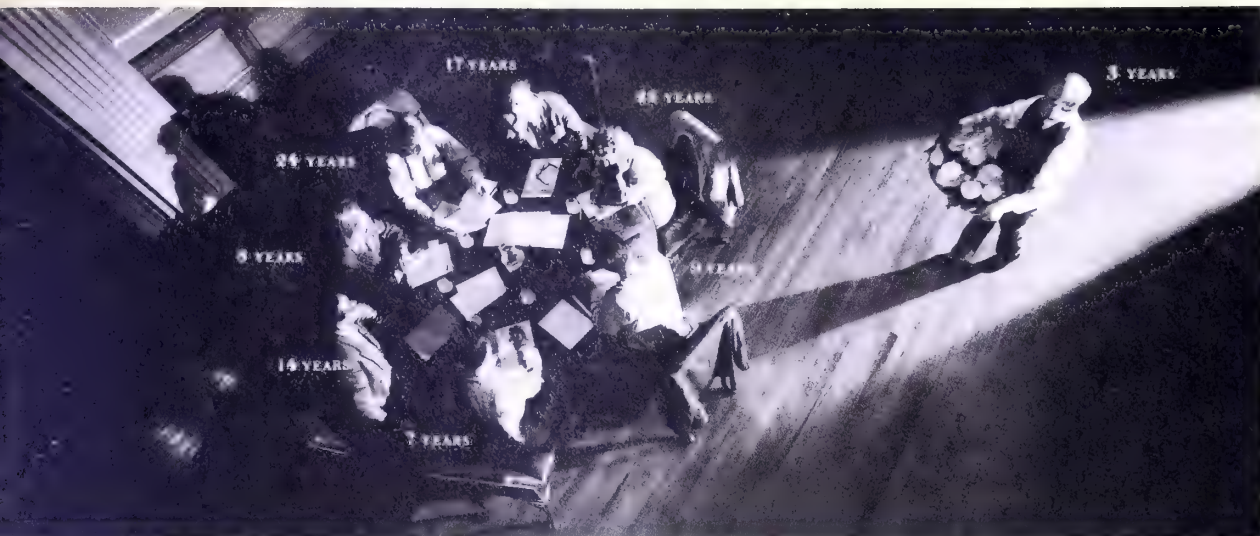
But switching from paper to electronic documents is only part of the solution. Unless the procedures for sharing the information are revised as well, information could still be sitting 90% of the time, says Delphi President Tom Koulopoulos. This is where workflow software comes in. It makes the movement of documents automatic, eliminating the need for a human to figure out who

Xerox, and Unisys are hawking workflow systems.

Why all the sudden interest? It's the reengineering fad. "It's very difficult to look at improving the business process without automating the flow," says Colette Coad, senior manager of enabling technologies at EY Young. Also, improvements in technology make workflow automation easier and cheaper. In the 1980s, it became economically feasible to scan, store, and move paper documents electronically.

FileNet Corp. in Costa Mesa pioneered the business with workflow that retrieve and display images of ID-card slips or insurance policies at a glance. FileNet's software, called Flo, enabled customers to determine specific path for images to move sometimes to multiple workstations once for simultaneous viewing and processing. Since then, virtually every supplier of imaging systems has

Eventually, workflow management may become the backbone of many computer networks



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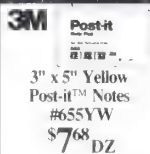
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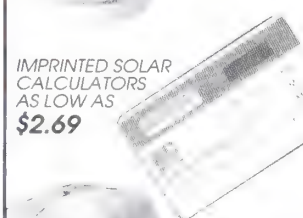
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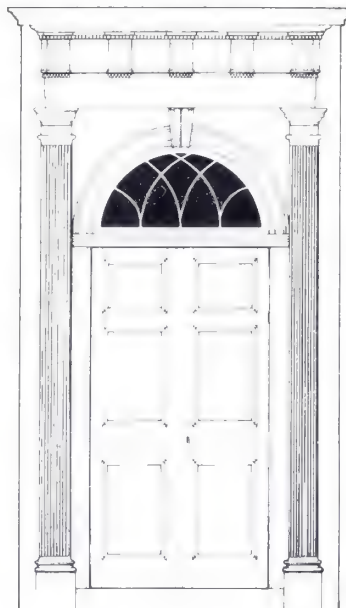
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them should go and what should
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oly contemplating workflow auto-
sparks improvements. Analyzing
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me. "Installing a workflow sys-
akes you ask: 'What do you really
to do?'" says Mary Schramke,
of a pilot project at Aetna Health
a division of Aetna Life Insurance
e insurer hopes workflow auto-
will speed processing of some 80
claims a year. Before analyzing
nnecticut claims-processing office,
"hadn't looked at the whole pro-
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7 steps to five. And Aetna found
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ANGES. Once a workflow map is
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k patterns. Consolidated Edison
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even uses its Sigma Imaging
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se the payoffs are so obvious,
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to become ubiquitous. Word-
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computer networks, working
behind the scenes to collect and
cuments, fire up applications
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That's what Xerox Corp. envi-
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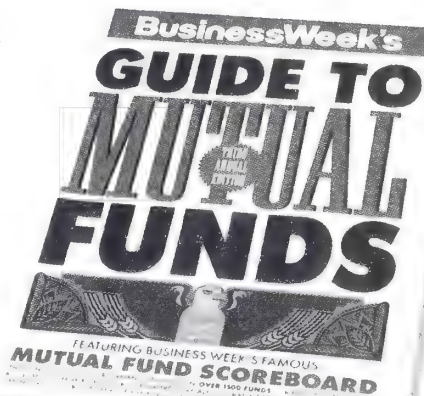
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Ellen Friedman knows the frustrations of living outside the bonds of matrimony. She has been turned down repeatedly for a family health insurance policy. She can't declare herself head of household on her tax returns even though she is working full time while her partner stays at home with their two-year-old son. When he was a baby, they rushed him to the hospital for emergency surgery. Friedman could not sign release papers because she is not his biological or adoptive mother. "It's hard being invisible," she says.

As a lesbian, Friedman cannot legally marry her partner. But an increasing number of Americans are choosing not to marry. The U.S. Census Bureau counted 4.9 million households of unrelated adults in 1992. Along with homosexual pairs, the group includes unmarried heterosexual couples, elderly couples who would lose a deceased spouse's pension and Social Security benefits if they married, and various groupings of family members and friends who find it more affordable and congenial to live together.

EXTRA COSTS. Although cities and corporations have extended benefits to domestic partners of employees, unmarried couples miss out on many financial advantages and legal protections that married



people enjoy. The law provides for married couples if one dies or becomes incapacitated or the relationship ends. But nontraditional couples must create their own safety net by preparing an assortment of legal documents, doing extra financial planning, and in many cases, spending more money on insurance, health care, and taxes.

Domestic partners may have need for little more than a loose agreement on handling household expenses and perhaps a joint checking account in their first few years together. "Mingling your finances should be a slow evolution,"

says Sharon Rich, a financial planner from Belmont, Mass. But as the relationship's horizon expands and you start making major purchases together, some legal safeguards are in order.

STAKE YOUR CLAIM. Several kinds of agreements exist to protect domestic partners (table). "Not only can it be important to clarify the more practical and mundane, but it can also be destructive if you don't," says attorney Denis Clifford of Berkeley, Calif., one of about 20 cities that registers domestic partnerships. Couples who skip a relationship agreement, which

spells out how you will handle property, debt, finances, show sure to create an estate agreement they buy a house together. In addition, include both names on the lease when you jointly acquire property assets. For example, if you pay for a car, but only your partner's name is on the title, you have no claim if you break up.

With increasing financial independence, a will is more important. With marriages, couples, one spouse automatically inherits the other's estate if there's no will because the state does not recognize domestic partnerships next of kin claim to even in cases where there is no will. Cathcart, ex-

director of the Lambda Defense & Education Fund, which promotes gay rights through legal action, says in cases where one person is homeless because the other's family inherited the couple had shared property can be challenged, so consider assigning assets to a trust if it seems likely that your family will dispute the will. And trust estate planning benefits the wealthy.

Domestic partners want to give each other legal and financial protection. Then, one has the right to make decisions

becomes mentally or physically incapacitated. In states, the medical document is called a health care. Without these agreements, the next of kin decides. There have been numerous cases with AIDS patients where "the parents" and take over, and the relationship."

MATTERS. If you have these documents as well as even greater significance. In most states, only people of the opposite sex have parental rights, so sexual parents are vulnerable to losing custody if biological or adoptive parents. Although a parent's agreement may not stand in court, writing one will ensure that you both know what you're getting when you start a

relationship about money, and a potential partner may be uncomfortable, but it's also important for the relationship. Says Friedman, who has written many such contracts over nine years with her partner. "It makes you think about your responsibility," he says. "That is really a good thing." Writing for the future in a formal way also couples more comfortable and the agreement is easier to abide by, attorney Karen of Cambridge, Massachusetts, says. "The couples who have difficulty talking about money and the future are the ones who need these documents most. 'Somebody needs to go to the lawyer before they do these things,' says. No matter how difficult it is, she says, it's certainly easier to get it done when you're getting an when you're up."

is tremendous in the cost of attorney to prepare agreements. But sorting out the

issues is the most time-consuming part, attorneys will often give cut rates on package deals. Kruskal charges about \$300 for a will, power of attorney, health-care proxy, and burial instructions.

To find an attorney with experience with domestic partnerships, it is best to go by word-of-mouth. If you don't have sources, call referral services, such as a local bar association, and look for ads in alternative newspapers. Once you have some names, conduct interviews to find someone you are comfortable with.

Books are available to help couples do the legal work on their own. Nolo Press in Berkeley (800 992-6656) offers

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A Legal Guide for Lesbian and Gay Couples (\$21.95) and, for heterosexual couples, *The Living Together Kit* (\$17.95). Berkeley lawyer Clifford, who co-authored the guide for homosexuals, says the home-made agreements should hold up in court. But using an attorney will help ensure that you've covered every aspect

of your unique situation, Kruskal says.

Along with legal issues, domestic partners face their own set of financial-planning concerns. Estates pass tax-free between spouses, making it crucial that domestic partners do careful estate planning. Tax laws are complex, and the advice of an experienced and sensitive tax attorney, accountant, or financial planner may be well worth the cost. Retirement planning is very important for unmarried couples who usually do not receive continued pension or Social Security benefits when a partner dies, as widows and widowers do. Domestic partners must plan without these funds, making

it necessary to have more life insurance and income in retirement.

ADVANTAGES? Also, because domestic partners are rarely eligible for benefits from their partner's employer, couples must make sure they each have enough health, life, and disability insurance. Employees for cities such as New York and companies such as Levi Strauss fought for these benefits, so if your employer does not grant coverage for domestic partners, start lobbying for it now.

There are some advantages to living together outside of marriage. Domestic partners can't file joint tax returns, so dual-income couples won't get pushed into a higher tax bracket. Some people are also glad to escape certain rules. "When you are married, there is a whole set of property laws you are often not aware of unless you get divorced," says Clifford. If you are not married, "you don't have the state telling you what to do."

So with a little forethought and some careful planning, domestic partners can come up with a set of rules all their own. *Amey Stone*

LEGAL AGREEMENTS THAT PROVIDE LASTING SECURITY

Document	Purpose	Cost*
WILL	Makes sure your partner receives property when you die. Without a will, all assets are transferred automatically to your next of kin. Essential for couples with children to help partner get custody if legal parent dies.	\$100-\$300
TRUST	Protects wishes of deceased if family members are likely to contest the will. Also has significant tax benefits for couples with complicated estates.	\$500-\$1,500
RELATIONSHIP AGREEMENT	Ensures that both parties agree on handling of joint property, shared debt, and household finances. Also, outlines what will happen if couple splits up.	\$600-\$1,000
REAL ESTATE AGREEMENT	Establishes how title will be held and mortgage and maintenance paid. Also decides what will happen to property if relationship dissolves. Can be included with a general relationship agreement.	\$600-\$1,500
PARENTING AGREEMENT	Outlines for each partner the support obligations and decision-making rights with regard to a child. Also may define how families of each partner will relate to the child. In the event of a breakup, outlines visitation rights and support obligations. Such agreements may not hold up in court.	\$600-\$1,000
DURABLE POWER OF ATTORNEY	Gives domestic partner the right to make any financial decisions should one partner become mentally or physically incapacitated. Otherwise the next of kin has that right.	\$100-\$300
HEALTH CARE PROXY	Allows one partner to make medical decisions should the other become sick or injured. Also allows partner to consult with doctors and visit in hospital. A living will may also be advised.	\$100-\$300

*Attorneys typically will prepare a package of documents for much less than it would cost to have them done individually

DATA: BUSINESS WEEK

Personal Business

Computers

MAKING YOUR PORTABLE LESS LIFTABLE

Shortly before the outbreak of the Persian Gulf War, a London thief snatched a laptop loaded with military secrets out of a parked car belonging to a Royal Air Force commander. Even though the computer was recovered, the unlucky officer paid a price for his carelessness: He was court-martialed, fined, and demoted.

You don't need to wear military stripes to worry about laptop crime. As portable PCs continue to shrink, they have become tempting targets. Common thieves can fence the machines for quick cash. Worse, a foe bent on industrial espionage can download information from your laptop's

hard drive onto a floppy disk without your ever discovering that the computer was tampered with. Says Winn Schwartz, executive director of International Partnership Against Computer Terrorism, a security company in Seminole, Fla.: "The actual value of the machine is chump change compared to the value of the data on it."

ROM-TIN-TIN. The simplest way to thwart laptop larceny is to lock up the PC. Kensington Microware's MicroSaver security system (\$59.95) lets you wrap a six-foot galvanized steel cable around a desk or other immovable object. A steel locking device fits into a special slot included on many laptop models.

Scare tactics may also prevent a heist. If a bad guy tries to swipe a PC protected by Lapguard software from Personal Computer Card (\$99,



800 992-1079), a dog's menacing bark will sound out from the speaker. SonicPro Alarm (\$100, 408 982-2568) is a device that sticks to the back of your monitor and triggers a piercing alarm when a culprit jars the laptop. It comes with a three-year, \$5,000 insurance policy against theft.

You have a chance of getting your laptop back by installing Computer Owner Protection software (\$49, IDX Technologies). A permanent 11-digit COP code appears each time your computer is turned

on and can help identify it should it be recovered.

Safeguarding data might require more diligent measures. With some security programs, you must insert a disk before working on the machine.

Security Guardian from Demand Software Systems (\$250, 800 423-9147) and PC/DACS from Mergent International (\$189, 203 254-1111) let you install multiple passwords: one to prevent unauthorized users from booting up your hard disk and another to protect particular directories and files.

If you're really paranoid, you can scramble files by adding to the Data Encryption Standard (DES), a government algorithm. A warning: Even your DES password appears even James Bond can't crack the code. *Edward*

When my husband announced he wanted to spend three of our precious vacation days at a golf school in the Catskills, I didn't jump for joy. While I can drill a crosscourt forehand and whack a softball into left field, when it came to hitting golf balls, nine times out of ten it was ready, aim, dribble.

Still, I agreed because I figured learning and playing golf would be a good thing to do as a couple. And I have enough of a competitive nature to want to prove that I can outsmart a golf ball. By the end of the long weekend, I had developed enough proficiency with my 5-iron to hit the ball—occasionally—up, straight, and 120 yards.

Whatever insight I gained into this maddening game I owe to Larry Keel, who runs the Exceller Programs golf school at the Huff House resort in Roscoe, N.Y. Keel, who

Leisure

HELP AND HOPE FOR THE MOST HAPLESS DUFFER

bears a slight resemblance to golf pro Lee Trevino, is a self-taught golfer. He is also a gifted teacher, with a knack for reducing the complexities of golf to simple, easily graspable concepts. "Stand tall over the ball." "Swing shoulder to shoulder, not back like a baseball bat." "Let the body fol-

low the swing." Yet, lest we be overwhelmed by all the rules, he had us focus on fixing one problem at a time.

BODY LINGO. Exceller emphasizes three aspects of golf: the mechanical, physical, and mental. What I liked about Keel is that he really homed in on the inner game. He had an almost Zen-like approach. My defining moment came when Keel explained that golf students speak different languages: body, ball, club. Those are the cues they respond to best when they must make an adjustment.

I speak body. So whenever I topped the ball—a common mistake for beginners that causes the ball to roll along the

ground—Keel would tell me to swing my arms down enough, on the next shot my club head would miraculously get under the ball and pop it up. For someone who speaks ball or club, his instruction might well be "under the ball" or "Swing club more vertically."

Exceller's \$1,195 three-week package for two includes hours of daily instruction, lodging, all meals (except dinner), unlimited play on the inn's short par-3 course, daily greens fees for a full-length course. The five students in all were at Exceller's most student-to-teacher ratio.

Scottsdale (Ariz.)-based Exceller (800 424-7438) has schools at nine resorts in the U.S. If you want to get out other programs, *Guide to Golf Schools and Camps* from ShaG (\$19.95 with postage, 08888) describes 186 nationwide. Golf school won't get you an instant expert, but it got me outsmarting golf balls to want to do my studies. *Amelia*



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Susan Parker used to run five miles a day until she gradually began to trip, fall, and lose control of her bladder. She went to numerous doctors before she was diagnosed with multiple sclerosis at age 34. Although the news shocked and depressed her, Parker went on to pursue her career as a mutual fund analyst for Paine-Webber Group, have a child, and lobby Congress for more MS research funds. "I don't like to play the part of a poor disabled person," says Parker, who gets around with a motorized scooter. "I want to stay active in society."

Parker's story debunks the myth that people with MS cannot lead productive lives. Although celebrities such as comedian Richard Pryor and former Congresswoman Barbara Jordan have heightened awareness of MS, misconceptions abound. Some people assume that those with MS die young and are mentally impaired. Many people don't even know what MS is.

NERVE DAMAGE. Multiple sclerosis is thought to be an autoimmune disease—the body's defense mechanism against invading viruses attacks the body instead. In MS, immune cells called T cells attack the myelin, or fatty tissue, which surrounds the nerves of the spinal cord and brain the same way insulation encloses electrical wire. Where myelin is damaged, scar tissue forms. This short-circuits impulses from the brain and leads to such symp-

HEALTH DEMYSTIFYING MULTIPLE SCLEROSIS

toms as blurred vision, loss of bladder control, numbness, spasticity, and paralysis.

Since scarring can form anywhere in the nervous system, MS has many manifesta-

tions as blurred vision, loss of bladder control, numbness, spasticity, and paralysis.

will be disabled with only one lesion in a strategic place." Up to 20% of people with MS have no permanent disability and may have only a few attacks in their lifetime. Oth-



turns. Since there seems to be a genetic predisposition to MS, scientists are studying a complex of genes defining immune systems of MS patients. Other studies show how cells make myelin. Animal studies have shown some chemicals speed the process and that myelinating cells can be transplanted from a healthy animal without these cells.

Just this year, a preliminary study at Brigham Young University's Hospital in Utah showed that some MS patients responded favorably to cow myelin. Another study identified a kind of virus that may be programmed to attack myelin. Scientists at Anogen Inc. in Wood City, California, are working on a drug to inhibit such cells.

More exciting—although still in the experimental stage—is a new treatment for the progressive form of MS. Patients receiving high doses of interferon, a genetically engineered virus protein secreted by immune cells, showed dramatic improvement. They had fewer and less severe attacks than control groups, and magnetic resonance imaging showed a decrease in their brain lesions. A synthetic form of the treatment should get FDA approval this summer.

Although getting MS is hardly a blessing, it can be a motivating force. This is the case for Valerie Miller, an entrepreneur who realized she couldn't keep up the grueling pace of a nurse. "As I had to sit down, I thought the thing to do is find my little niche," she says. Miller used her nursing experience to start a successful business that provides financial services and nursing services to New York area hospitals. "I learned to not be such a A personality, to calm down and to look for a new thing in life," she says. "That's positive." Parker

Worth Noting

■ **HOLY ART!** Vatican Treasures: 2000 Years of Art and Culture in the Vatican and Italy makes its only North American appearance at the Colorado History Museum in Denver, July 3 to Aug. 31. The exhibit coincides with a visit by Pope John Paul II and features 250 religious art-

tions. "Many lesions are asymptomatic," says Stephen Reingold, head of research at the National Multiple Sclerosis Society in New York. "You can see them but the patient has minimal effects. Others

works from Italy. Tickets are \$8.50. Call 303 290-0101.

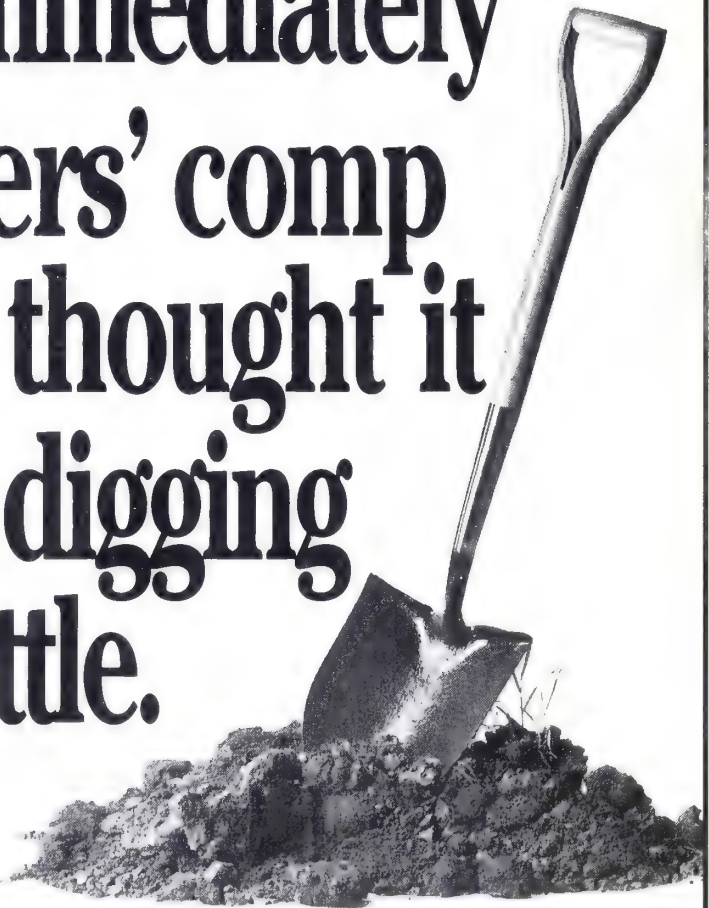
■ **TOUCH OF HOME.** Next time you're traveling, try renting an apartment instead of a hotel room. The Barclay International Group (800 845-6636; 212 832-3777 in New York) leases apartments throughout Europe. Living rooms are handy for business and social meetings; dieters can cook at home.

ers have periodic attacks followed by remissions or a steady progression of symptoms. The affliction strikes women more than men, hitting as early as age 20. Most people have normal life spans and aren't mentally impaired.

There's no cure, but there are as many drugs to treat the disease as there are symptoms. Some help by suppressing the immune system. Steroids treat the swelling that occurs around myelin lesions. Other drugs alleviate the severe fatigue caused by MS. Drugs only work sometimes, and many have dangerous side effects.

Research is taking hopeful

When 8 gardeners quit and immediately filed workers' comp claims, we thought it was worth digging around a little.



To the trained eyes of our State Fund adjusters, the workers' comp claims of eight disgruntled gardeners all looked dubious. Especially since the workers were using the same lawyer and medical mill, and claiming suspiciously similar "injuries." So we weren't surprised when our investigation failed to unearth any bona fide ailments—unless you counted the chips on the gardeners' shoulders.

By aggressively challenging the claims before the Workers' Comp Appeals Board, we were able to get all eight of them thrown out—at a savings of almost \$100,000. Since then, we've passed our findings along to the local district attorney for possible prosecution of the individuals involved.

Unusual? Not for State Fund. Our entire network of adjusters and investigators is committed to weeding out dishonest claims, whether they're abuses of the system or out-and-out fraud. To get the full scoop on the gardeners—and find out more about preventing fraud in your workplace—give us a call.

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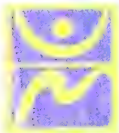


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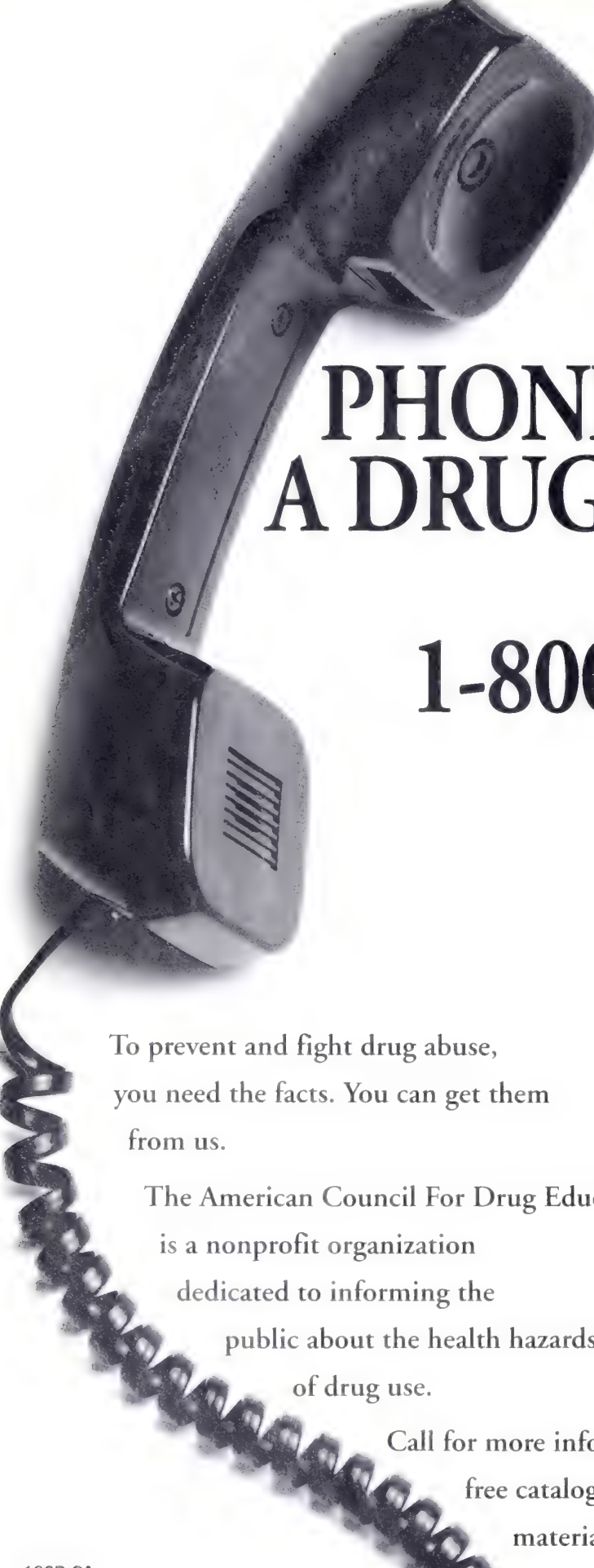
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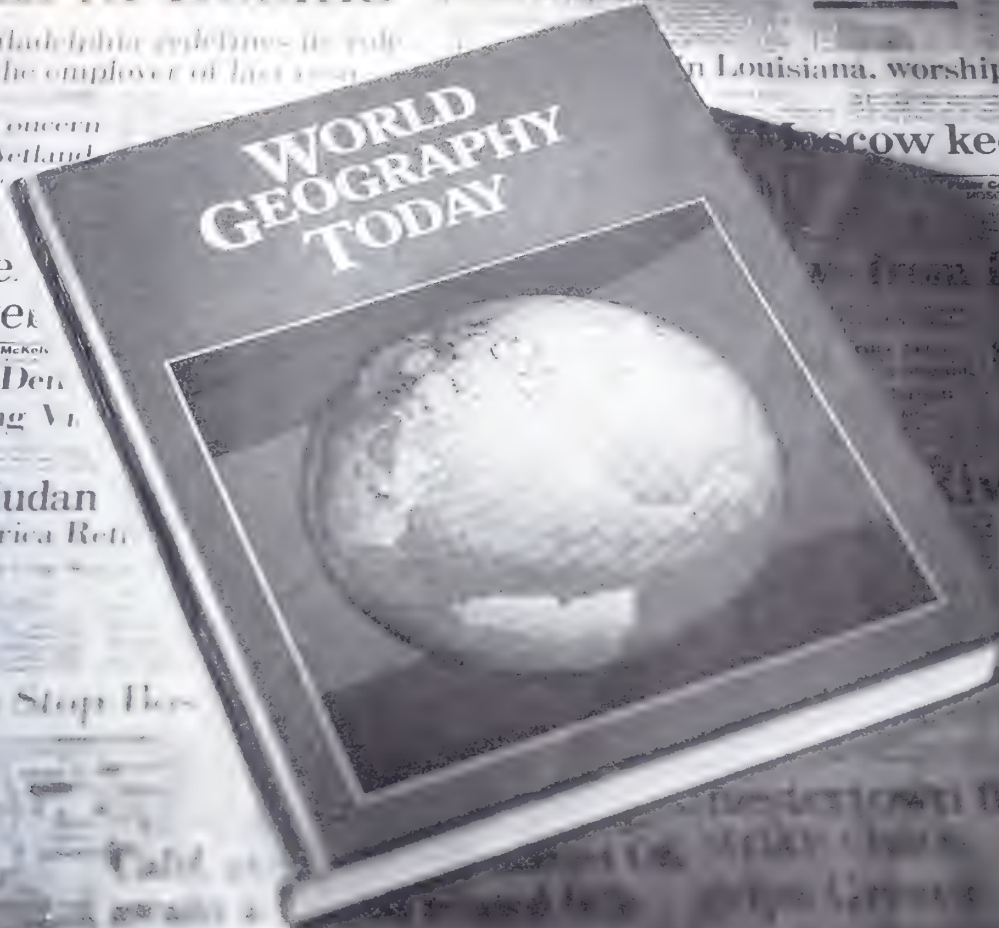
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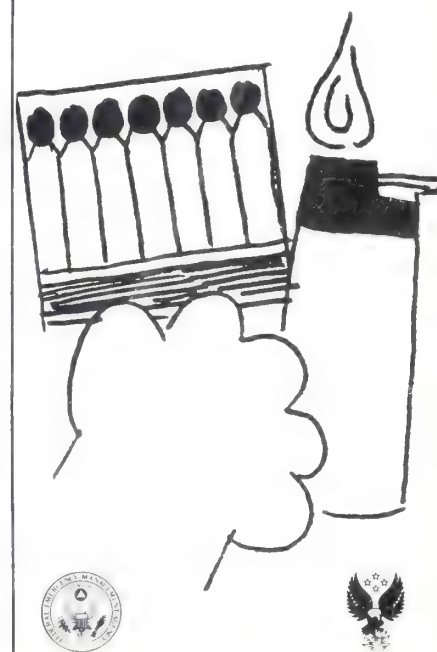
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CURIOUS KIDS SET FIRES

When a kid strikes a match, fire strikes back! Children don't realize that a simple flame can blaze out of control in mere minutes. That may be why nearly twenty-five percent of the fires that kill young children are started by children themselves playing with fire.

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A message from your local fire department, this publication, and the U.S. Fire Administration.

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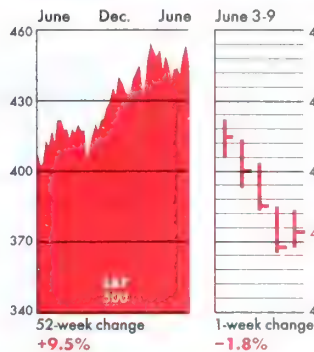
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Investment Figures of the Week

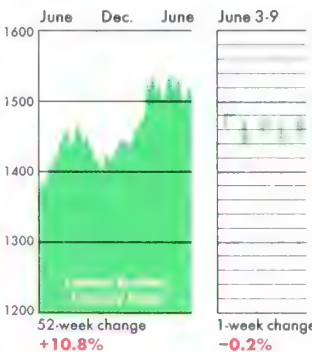
MARKET COMMENTARY

about the high level of prices, investors cashed profits. The Dow industrials, or 1.2%, from a June 3. The broader S&P index took an even bigger gain of 1.8%, and small-cap funds off 1.9%. Profit-taking of the market's darlings, big and high-tech issues. The gain was attributed in part to news about upcoming earnings reports. However, the bond market, which is even warier of inflation, edged up the week little.

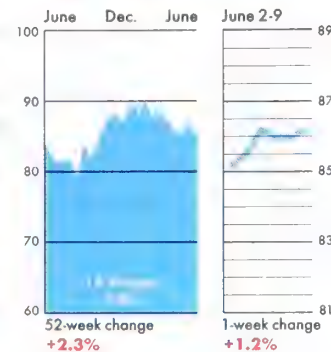
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS

	Latest	% change Week	% change 52-week
INDUSTRIALS	3511.9	-1.2	5.0
COMPANIES (S&P MidCap Index)	163.2	-2.5	16.1
COMPANIES (Russell 2000)	229.8	-1.7	17.8
COMPANIES (Russell 3000)	254.8	-1.9	11.2

FINANCIAL STOCKS

	Latest	% change (local currency) Week	% change 52-week
(FINANCIAL TIMES 100)	2866.9	0.1	8.3
(NIKKEI INDEX)	20,575.2	-0.6	16.0
(TSE COMPOSITE)	3859.7	0.0	14.6

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	3.17%	3.13%	3.77%
30-YEAR TREASURY BOND YIELD	6.88%	6.88%	7.90%
S&P 500 DIVIDEND YIELD	2.81%	2.75%	3.00%
S&P 500 PRICE/EARNINGS RATIO	22.5	22.9	24.9

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	442.9	442.3	Positive
Stocks above 26-week moving average	54.5%	59.6%	Negative
Speculative sentiment: Put/call ratio	0.46	0.39	Positive
Insider sentiment: Vickers sell/buy ratio	2.35	2.40	Neutral

INDUSTRY GROUPS

WEEK LEADERS

	% change 4-week	% change 52-week
CASTING	11.6	20.2
MANAGEMENT	9.6	-16.4
ENTERTAINMENT	9.2	19.7
OIL & GAS DRILLING	9.2	48.9
DISTANCE TELECOMMUNICATIONS	9.1	47.7

WEEK LAGGARDS

	% change 4-week	% change 52-week
STRUCTURED HOUSING	-13.3	19.5
CARE SERVICES	-12.3	-33.6
MINING	-9.7	-25.2
MARKET AUTO PARTS	-6.0	22.5
	-6.0	8.7

Strongest stock in group

	% change 4-week	% change 52-week	Price
COMCAST	23.1	34.1	22 5/8
COMMUNITY PSYCHIATRIC CENTERS	12.0	-4.5	10 1/2
WALT DISNEY	10.8	19.9	43 3/4
HELMERICH & PAYNE	13.0	54.2	37
MCI COMMUNICATIONS	10.8	67.4	54

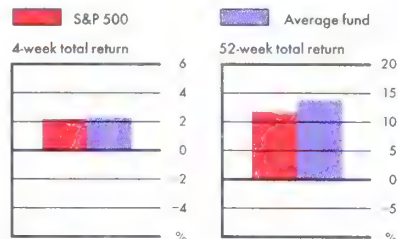
Weakest stock in group

	% change 4-week	% change 52-week	Price
FLEETWOOD ENTERPRISES	-14.2	23.0	17 3/8
AMGEN	-19.3	-44.3	33 1/2
CONSOLIDATED FREIGHTWAYS	-13.9	10.7	15 1/2
REEBOK INTERNATIONAL	-9.8	46.8	34 1/2
COOPER TIRE & RUBBER	-29.6	-3.0	24 3/8

BRIDGE INFORMATION SYSTEMS INC.

MUTUAL FUNDS

total return	%	LAGGARDS	Four-week total return	%
ON STRATEGIC INVESTMENTS	26.2	SKYLINE VALUE	-11.7	
SERVICES GOLD SHARES	15.5	STEADMAN OCEANOGRAPHIC TECHNOLOGY	-4.7	
IDAS GOLD SHARES	14.9	PROGRESSIVE AGGRESSIVE GROWTH	-3.4	
total return	%	52-week total return	%	
STATE STREET GLOBAL ENERGY	61.8	PROGRESSIVE AGGRESSIVE GROWTH	-26.3	
ON STRATEGIC INVESTMENTS	57.2	FINANCIAL STRATEGIC ENVIRONMENTAL	-23.8	
GROWTH	52.1	FIDELITY SELECT MEDICAL DELIVERY	-17.4	



MORNINGSTAR INC.

RELATIVE PORTFOLIOS

Assets	Value	% change
Foreign stocks	\$12,780	-0.20%
Treasury bonds	\$12,101	-0.36%
U.S. stocks	\$11,162	-2.01%
Gold	\$11,091	-0.56%
Money market fund	\$10,240	+0.05%

DATA RESOURCES INC.

Page 1: Data as of market close Wednesday, June 9, 1993, unless otherwise indicated. Page 2: Data as of market close Wednesday, June 9, 1993, unless otherwise indicated. Page 3: Data as of market close Wednesday, June 9, 1993, unless otherwise indicated.

Page 4: Data as of market close Wednesday, June 9, 1993, unless otherwise indicated. Page 5: Data as of market close Wednesday, June 9, 1993, unless otherwise indicated. Page 6: Data as of market close Wednesday, June 9, 1993, unless otherwise indicated.

THE WINDING ROAD TO A BETTER BUDGET

On the face of it, the news from Washington is bad again. The Administration's energy tax, the "BTU" levy on the heat content of fuels, was nibbled to death by lobbyists in the Senate, to the point where President Clinton was forced to drop it entirely from his budget package. As the only broad-based tax capable of raising \$75 billion, the energy tax is central to Clinton's plan to reduce the federal deficit by \$330 billion over five years. Coming just weeks before the July 7 economic summit in Tokyo, it looks to be one more retreat and defeat for the Administration and the country.

Wrong. Despite the messy political process, the deficit-reduction package that is working its way through Congress is looking better and better. In fact, when it finally emerges sometime this summer, it will probably be much sturdier than the proposal Clinton offered in February.

What's going on? As the budget has snaked through the House and Senate, it has undergone a major shift away from higher taxes and toward bigger spending cuts. Right now, it is only a hair's breadth away from cutting a dollar in spending for every dollar in tax hikes, a far cry from the ratio that was implied in its original formulation. Senate Finance Committee Chairman Pat Moynihan (D-N.Y.) recently said that if spending were cut an additional \$51 billion over the next five years—that's \$10 billion a year in a \$1.5

trillion budget—the package would hit the one-to-one target.

The death of the BTU tax can provide the opportunity to hit the bull's-eye. The buzz in Washington is that it will be replaced by another, smaller energy tax that will raise revenues by only \$50 billion. The missing \$25 billion will come from cutting spending. Moynihan wants to trim more Medicare, and if that's politically possible, fine. But there is plenty of room for cutting back on hefty subsidies, starting with agriculture, low-priced electricity, and benefits for off veterans.

Killing the BTU tax also provides a hidden bonus. The likely descendant is more apt to exclude taxes on manufacturing and production in general, and land more squarely on consumption. It probably will be some kind of tax on fuels and electricity. BUSINESS WEEK has said for many years that if taxes must go up, let them fall on such consumers as gasoline.

Democracy is never neat and clean, and what goes on in Washington occasionally makes one wonder about the efficacy of our institutions. But it is time to remind ourselves to keep our eyes on the eight ball. In the case of the deficit-reduction package, perhaps the most important piece of legislation the country will see in this decade, the democratic process is generating a product of which we will all be proud. Champagne, anyone?

KEEP THE MELTING POT FROM BOILING OVER

They are coming to America. By boat, by plane, and on foot, a vast and growing number of Chinese, Russians, Mexicans, Poles, Hungarians, Irish, Israelis, Egyptians, Pakistanis, Indians, Haitians, Dominicans, and others are arriving on U.S. shores. As market forces and democracy sweep through the old communist empire, and as the global economy integrates ever more tightly, millions of people are suddenly on the march, many to the U.S.

To its credit, America still has a wide-open door for people looking for opportunity and a better way of life. But the sheer numbers of people—political refugees, legal and illegal immigrants—is putting a severe strain on such "gateway" cities as Los Angeles, Miami, and New York, which already are burdened by high unemployment and overloaded services.

While the public clearly is in a no-tax-increase, cut-spending mood, the bill for the current wave of immigration keeps rising. Special programs in the Spanish and French Creole languages are costing Dade County, Fla., an extra \$80 million this year. More than 10% of the immigrants are on welfare in California, and illegal aliens make up at least 25% of Southern California's jail population. The weight is heavy as well on hospitals everywhere in urban America.

It is true that the vast majority of immigrants, legal and illegal, are productive workers who pay considerable taxes. The problem is that most of the costs of immigration, such

as schooling and health care, occur on the local level. Most of the tax revenue that immigrants generate goes to state and federal governments. Unfortunately, the local governments do not return all that money, dollar for dollar, to the immigrant-burdened local communities.

This financial disconnect must end. Immigration is a national decision that is falling predominantly to a handful of cities to implement. It is these cities that do the job of specializing and integrating millions of immigrants every year. And these cities must be provided with the resources to do the job.

In addition, it is time the U.S. government began to enforce seriously its immigration laws and obey the wishes of its own people. Even though America is at its core a melting pot, there simply is no way that this one pot can take in all the people in the world who wish to come here. That means choices must be made. The 1986 Immigration and Naturalization Act reflects those choices, and it should be followed. Tightening up the underfunded, understaffed Immigration and Naturalization Service would be a good first step. Issuing a verifiable employment-eligibility card for immigrants—that is difficult to counterfeit—would be a fine follow-up.

If the U.S. is to maintain its open-door immigration policy, it must be prepared to do more to assimilate those who arrive legally and keep out those who don't.



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WORK & FAMILY

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nt to make your company stronger? Help your employees balance their careers and kids. Here's how innovative managers do it. PAGE 80

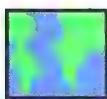


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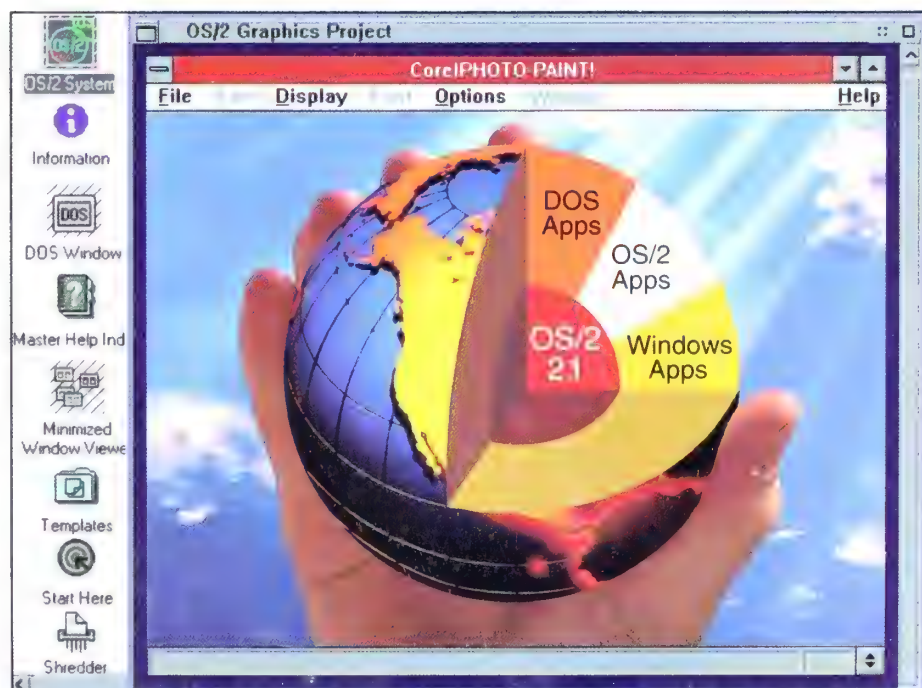


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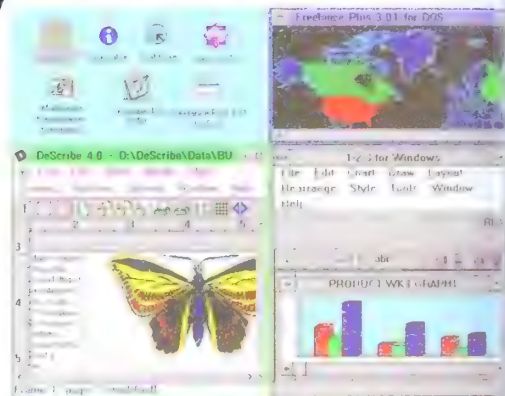
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NOT YOUR FATHER'S SUPERVISOR: PACIFIC BELL'S STEVE COULTER MANAGES ABOUT 20 EMPLOYEES, MOST OF THEM TELECOMMUTERS

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A DISCREET PC SUPERPOWER

Look under the machine's cover and find "Made in Taiwan"

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Stan Shih's Taiwanese computer company isn't just a clonemaker now

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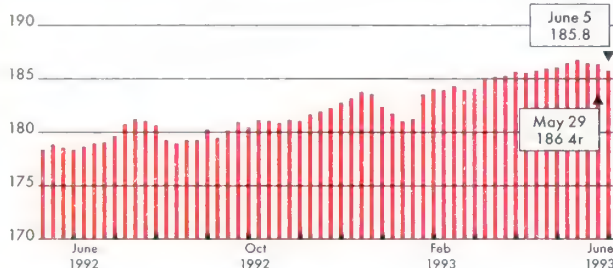
The right family values at work
For best results, decentralize R&D

BusinessWeek Index

PRODUCTION

Change from last week: -0.3%
Change from last year: 4.1%

1967=100 (four-week moving average)

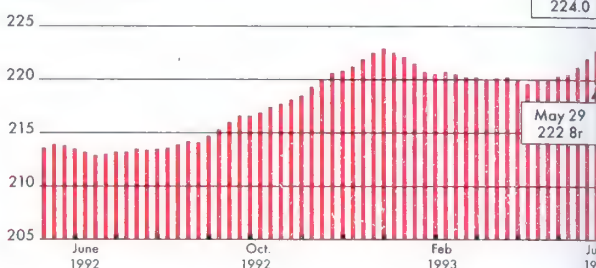


The production index fell during the week ended June 5, but part of the decline reflected a later-than-usual Memorial Day, when many plants were closed. As a result, seasonally adjusted output levels of steel, autos, trucks, and rail-freight traffic dropped for the week. Electric power, coal, paper, and lumber production increased, while crude-oil refining and paperboard output were flat. Before calculation of the four-week moving average, the index fell to 184.9, from 186.7.

BW production index copyright 1993 by McGraw-Hill Inc.

LEADING

Change from last week: 0.5%
Change from last year: 4.9%



The leading index rose again during the week ended June 5. That was eighth consecutive weekly rise. Sharply lower bond yields, higher stock prices, a faster growth in real estate loans and M2 money supply offset a small decline in the growth of materials prices. The number of business failures was unchanged from the previous week. Before calculation of the four-week moving average, the index jumped to 225.8, from 223.5.

Leading index copyright 1993 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (6/12) thous. of net tons	1,808	1,864#	2.6
AUTOS (6/12) units	125,627	108,667r#	-3.8
TRUCKS (6/12) units	100,504	83,415r#	15.2
ELECTRIC POWER (6/12) millions of kilowatt-hours	59,920	53,612#	2.9
CRUDE-OIL REFINING (6/12) thous. of bbl./day	14,165	13,962#	1.5
COAL (6/5) thous. of net tons	16,957#	18,771	-9.4
PAPERBOARD (6/5) thous. of tons	812.9#	812.2r	1.1
PAPER (6/5) thous. of tons	795.0#	784.0r	1.0
LUMBER (6/5) millions of ft.	363.4#	462.9	-26.6
RAIL FREIGHT (6/5) billions of ton-miles	19.1#	21.7	-8.6

Sources: American Iron & Steel Institute, Ward's Automotive Reports, Edison Electric Institute, American Petroleum Institute, Energy Dept., American Paper Institute, WWP, SPPA, Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (6/16)	107	107	127
GERMAN MARK (6/16)	1.66	1.64	1.57
BRITISH POUND (6/16)	1.50	1.51	1.86
FRENCH FRANC (6/16)	5.57	5.50	5.29
CANADIAN DOLLAR (6/16)	1.28	1.28	1.20
SWISS FRANC (6/16)	1.48	1.47	1.42
MEXICAN PESO (6/16) ³	3.117	3.131	3.093

Sources: Major New York banks. Currencies expressed in units per U.S. dollar, except for British pound expressed in dollars

PRICES

	Latest week	Week ago	% Change year ago
GOLD (6/16) \$/troy oz.	368.000	371.450	7.6
STEEL SCRAP (6/15) #1 heavy, \$/ton	111.50	111.50	26.0
FOODSTUFFS (6/15) index, 1967=100	202.7	202.3	0.9
COPPER (6/12) ¢/lb	88.3	87.9	-17.0
ALUMINUM (6/12) ¢/lb	54.3	52.8	-8.1
WHEAT (6/12) #2 hard, \$/bu	3.44	3.32	-17.3
COTTON (6/12) strict low middling 1-1/16 in., ¢/lb	55.97	56.12	-4.0

Sources: London Wednesday final setting, Chicago market, Commodity Research Bureau, Metals Week, Kansas City market, Memphis market

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (6/11) S&P 500	446.16	451.34	6
CORPORATE BOND YIELD, Aaa (6/11)	7.38%	7.38%	-
INDUSTRIAL MATERIALS PRICES (6/11)	95.9	95.5	-
BUSINESS FAILURES (6/4)	362	360	-8
REAL ESTATE LOANS (6/2) billions	\$398.6	\$396.4r	-
MONEY SUPPLY, M2 (5/31) billions	\$3,476.3	\$3,466.9	-
INITIAL CLAIMS, UNEMPLOYMENT (5/29) thous.	347	339	-2

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Street (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusted data on business failures and real estate loans

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
INDUSTRIAL PRODUCTION (May) total index	110.4	110.2r	.5
CAPACITY UTILIZATION (May)	81.6%	81.6%r	.9
HOUSING STARTS (May) annual rate, thous.	1,244	1,215r	.9
CONSUMER PRICE INDEX (May)	144.2	144.0	.2

Sources: Federal Reserve Board, Commerce Dept., BLS

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (5/31)	\$1,074.9	\$1,065.3	.8
BANKS' BUSINESS LOANS (6/2)	277.2	275.9r	.8
FREE RESERVES (6/9)	793	1,098r	1.3
NONFINANCIAL COMMERCIAL PAPER (6/2)	158.1	158.3	.6

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (6/15)	3.14%	2.72%	3.7%
PRIME (6/16)	6.00	6.00	6
COMMERCIAL PAPER 3-MONTH (6/15)	3.24	3.28	3
CERTIFICATES OF DEPOSIT 3-MONTH (6/16)	3.17	3.26	3
EURODOLLAR 3-MONTH (6/11)	3.25	3.21	3

Sources: Federal Reserve Board, First Boston

#Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment. 1=Western Wood Products Assn. 2=Southern Forest Products Assn. 3=Free market value NA=Not available r=revised NM=Not meaningful

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HARD LINE: MANY CUBAN EXILES FAVOR THE TRADE EMBARGO AGAINST HAVANA

LITTLE HAVANA'S NASTY WAR OF WORDS

The noisy lunchtime crowd in the Ayestaran restaurant drowns them out at first. But the murmuring between the bleached-blond woman and the swarthy, stocky man standing near our table grows louder and more insistent. We try to ignore them.

Over cups of *café cubano*, my companions and I are discussing efforts by Cuban exiles in Miami to maintain contact with dissidents back home. One of my tablemates, Ramon Cernuda, began such communications in 1988, when hard-liners among Miami's Cuban exiles condemned any links with those living under Castro. Since then, the hard-liners also have reached out to the homeland in anticipation of Castro's demise. But Cernuda, a publisher, is still controversial because he and the dissidents he speaks for favor the easing of U.S. policy toward Cuba and a lifting of the U.S. trade embargo—heresies to hard-liners.

Suddenly, the woman announces that she refuses to eat in a restaurant that serves Cernuda. "*El es comunista*," she declares and stalks out. The man next to her chimes in, saying that he was a political prisoner for 12 years in Castro's jails and denouncing Cernuda as a communist. Remember this face, he advises Cernuda: The next time you see it, you're going to "*partirle la vida*"—part with your life.

Embarrassed, uncomfortable, and a

little fearful, I suggest we leave. I think the man must have overheard us, though we're speaking in English, and I'm worried and sorry that I might have unwittingly caused the scene. Cernuda shakes his head and listens in silence, a muscle twitching in his clenched jaw.

After five minutes, the man leaves. The restaurant is abuzz. One woman tells Cernuda she admires his efforts. Another stops by our table and hisses that she doesn't like public scenes, but if she'd been the man, she would have taken Cernuda outside and "broken him up." A lawyer at the next table proffers his card and words of support. A waitress warns that more trouble may await outside. We settle our bill and leave.

Fortunately, no-

body is lurking. "It's sad these people don't recognize we're working for change," Cernuda says. "To them, any proposal does not incorporate an element of revenge is unacceptable. They are full of hate and want someone to make up for their years of suffering. And that cycle of revenge never ends." **TENSIONS.** Thirty-four years after the *revolucion* dashed fortunes and ripped apart families, passions about Cuba run deep in Miami, and deeper still pour U.S. policy toward the island. In the restaurants and open-air *bodegas* along Calle Ocho in the heart of Little Havana, discussions about Cuba are ubiquitous from when Castro will fall to the land's deepening economic crisis. Conversely, the end of the cold war seems to have sharpened the divisions among exiles. Hard-liners denounce those who question continued U.S. efforts to aid the island. They also decry the practice of sending food and supplies to Cuba. As the Cuban economy disintegrates, shipments from exiles have jumped to an estimated \$400 million annually. Hard-liners fear the relief will prop up Castro's regime.

Those who advocate rapprochement with Havana do so at considerable risk. "The opinion that Castro's government should be communicated with or accommodated in any way is a dangerous proposition to take in Miami," says John Blummer, executive director of the American Civil Liberties Union of Florida. "There are people here who are willing to take the law in their own hands and engage in criminal and terrorist activities to silence that opinion."

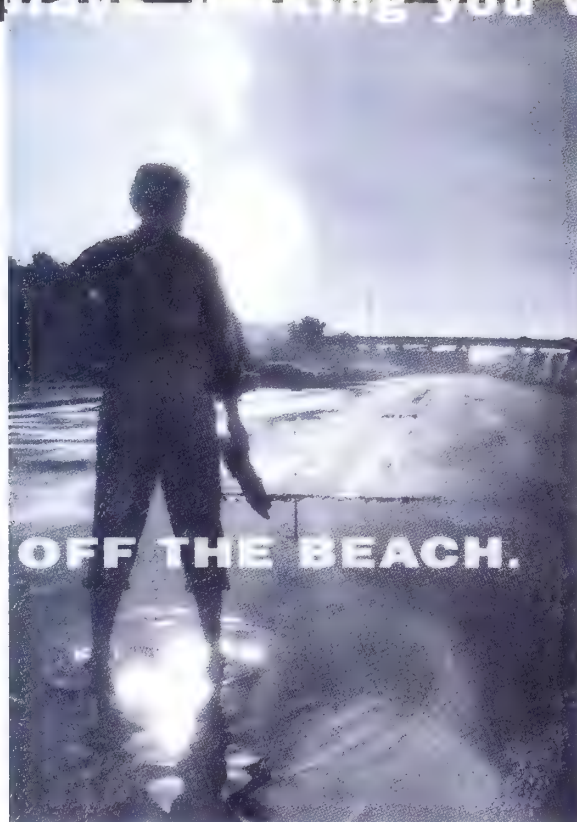
Outright terrorism in Miami appears to be on the wane. The last bombing was in 1990, when the Cuban American Museum was showing works by artists in Cuba. But tensions are high and





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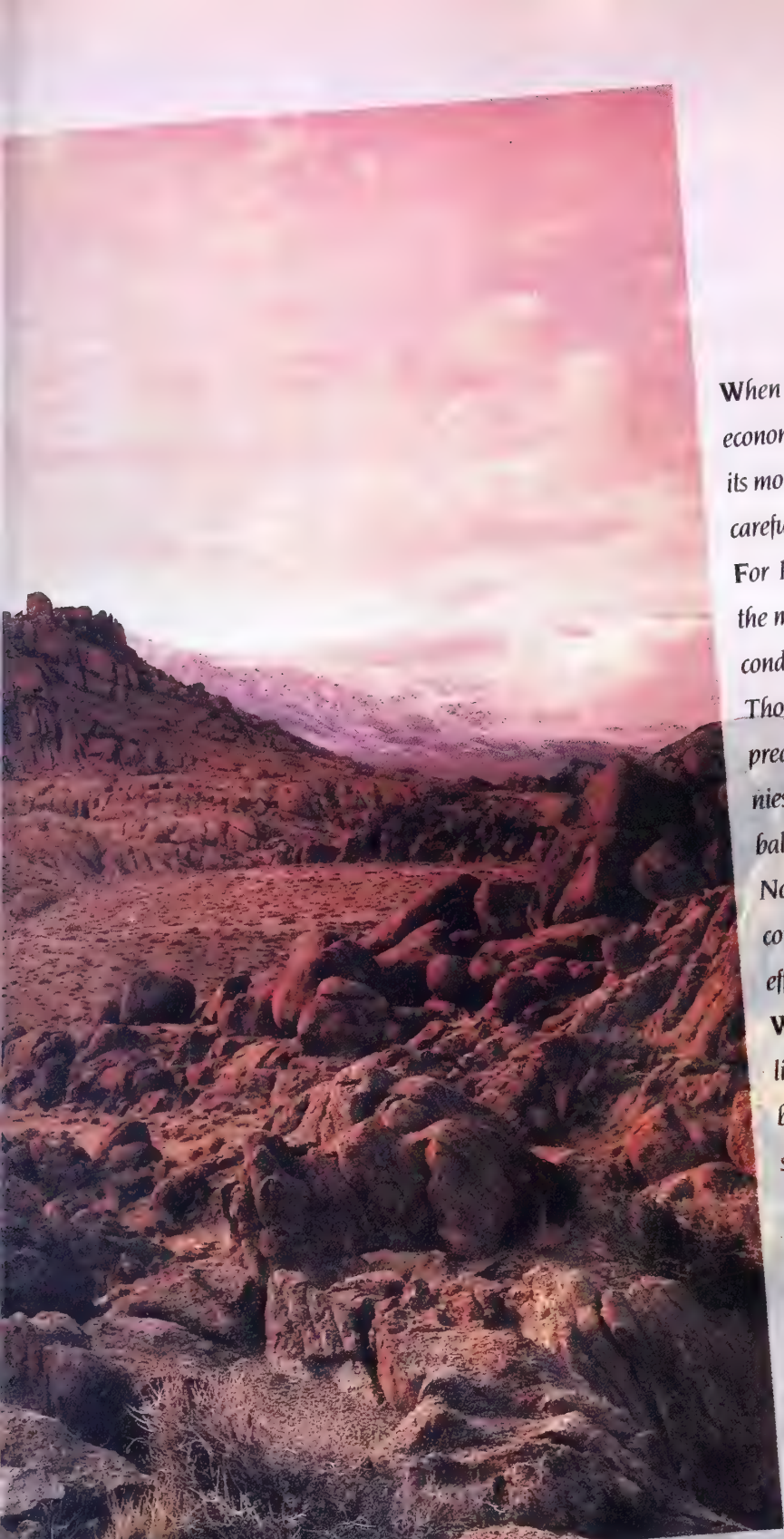


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Letter From Miami

there is fear violence will escalate. A demonstration in March by an anti-embargo group in front of hard-line Radio Mambi, a local Spanish-language station, turned nasty as anti-Castro demonstrators mounted a counterprotest. Blows were exchanged and 15 people arrested.

In May, members of the same group returning from May Day celebrations in Havana were greeted by more anti-Castro demonstrators at Miami International Airport. After a scuffle, three people, including two members of a television crew, were arrested.

Still, more Cuban exile groups that advocate moderate U.S. policies are being formed. *Cambio Cubano* (Cuban Change), is one such group, led by Eloy Gutierrez Menoyo, who champions nego-

Martí, which broadcast to Cuba, and passage of the Cuban Democracy Act, which tightens the U.S. embargo. "I think [Miami] has matured tremendously," he says. "We are learning to overcome differences of opinion."

Yet it was only in January, 1992, that CANF Chairman Jorge L. Mas Canosa, interviewed by a Spanish-language radio station, compared *The Miami Herald* to *Granma*, the Cuban government newspaper, after the *Herald* opposed the Cuban Democracy Act. Soon, *Herald* vending machines were smeared with feces and silicone gel. There were bomb threats against the paper and death threats to Publisher David Lawrence Jr. "The climate [Mas Canosa] stirred up allowed some wackos to do some crazy things,"

for tourists, not Cubans. Even so, harassing phone calls made Young uncomfortable. He hid his phone and got an unlisted number. Someone tried to set fire to a warehouse Young's group used, and ele- once tried to break up a meeting.

There is one thing most exile groups do agree on: the importance of maintaining contact with dissidents in Cuba. There, those who speak out openly against Castro face loss of jobs, imprisonments, and possible imprisonment. Moderate exiles such as Cernuda first initiated contact with dissidents so they could report human-rights violations to international organizations. Now, many groups make it their business to keep touch with Cuban dissidents.

Pepe Fernandez, a controller of stock brokerage by day, has been in regular contact by phone—through Canada—with a group of Cuban dissidents since 1990. The group planned a peaceful protest in Havana but before the announced date of the demonstration, five members were arrested. Three went to trial, including University of Havana professor Pita, who was sentenced to five years.

One night I listened in on Fernandez's phone, and a woman recounted how anonymous leaflets that proclaim "If you have lights but your people have none" and "Fidel, you are killing people with hunger" were quickly set up by security forces. She also told of a group of fleeing Cubans whose boat broke down. They've been detained, fined, and are subject to trial.

OUTSIDE VOICE. One of the major efforts to report on dissent back home is through CANF's *Voz de la Fundacion*, a city eight-hour, shortwave broadcast. Reports on 64 dissident groups, up from six in 1990, says Ninoska Pérez Cabelón, the station director. And while *Voz* won't deal with dissidents who take positions counter to the CANF's, it will report on abuses against such people.

At this point, any communication with Cubans in Miami is welcome, says Viera Leyva, a dissident who arrived from Havana in early June with his wife and two sons. He was beaten four times in the past year, his wife lost her job, and he was unable to find work. Contact with Miami is difficult and very dangerous but gives dissidents a voice outside. "Without it, the struggle of the dissidents would make no sense," he says. In his view, the infighting among Cuban exiles in Miami is a meaningless distraction: "The struggle is there." It might be well for all sides of Miami's exile community to remember that.

GAIL DeGERGE
DeGeorge is this magazine's Miami Bureau Manager.



YOUNG IN KEY WEST: EVEN HUMANITARIAN AID ELICITS DEATH THREATS AND REPRISALS

tiations with Havana to bring democracy to Cuba. A former paramilitary commando who served 22 years in Cuban prisons, Menoyo boasts strong credentials among conservative Cubans.

The growing tensions in Miami are the natural result of the growing political diversity among Cubans, says Lisandro Perez, director of the Cuban Research Institute at Florida International University. Castro remains in power despite three years of predictions by hard-line exiles that his fall could come any day. "There is frustration and a sense that they can't allow [moderate] voices to be heard," says Perez.

Francisco J. Hernandez, president of the conservative Cuban American National Foundation, disagrees. He claims that the CANF, largest of the exile groups, has channeled much of the frustration that led to terrorist acts into constructive activities. The CANF has helped influence U.S. policy with programs such as Radio Martí and TV

says Lawrence. The CANF issued a statement condemning these acts.

Last August, Americas Watch issued a report citing a pattern of intimidation, violence, and vandalism in Miami against those who espouse opinions that counter the conservative view. The report's author, Gara LaMarche, blamed government and law enforcement officials for not dealing adequately with the situation. Reaction to the report "was entirely defensive," LaMarche adds. "The response was to blame the messenger." Both the mayor of Miami and the CANF threatened to sue for libel.

Even humanitarians have been caught in the political crossfire. Key West businessman John Young put together a flotilla of 15 boats in April to carry medicine to Cuba. The event turned into a media frenzy, with journalists and television crews coming from as far away as Japan. Young was dismissed as naive by hard-liners who predicted the medicine would be used by the government

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DON'T GET SCARED. JURASSIC PARK IS JUST A MOVIE

Your commentary "Who's afraid of Jurassic Park? Biotech ought to be" (Top of the News, June 7) serves only as fodder for fringe-group ramblings. The public is too intelligent to confuse Hollywood's screen creations with what's going on in corporate laboratories. It seems to me that the general public would be more inclined to believe the recent life-enhancing and life-saving applications of gene therapy than the fictionalized bringing to life of a raptor or *Tyrannosaurus rex*. Stirring up controversy where there is none—especially about a movie—will only bring about a self-fulfilling prophecy.

Donald S. Le Vie Jr.
Austin, Tex.

NO JAPANESE CRIME FAMILIES AT THIS ADDRESS

The story "A Japanese laundry worth \$1 billion?" (Top of the News, May 24) includes references to Riviera Country Club, Marukin Corp., and to Kaneo and Noboru Watanabe that require clarification and correction.

Your article states: "U.S. Customs and FBI officials are said to be looking into the \$108 million purchase in 1988 of famed Riviera Country Club...." To the best of our knowledge, neither Riviera Country Club nor its owner, Marukin Corp., is a target or subject of any investigation. No charges have been filed, no contact has been made with the Watanabes or their company, Marukin Corp.

A further quote: "The Riviera is just the kind of investment Japanese crime families might covet." This would imply that the Watanabes are part of an illicit family operation, and that is absolutely untrue.

The unfortunate linkage of the box, titled "Dirty green on the greens," and a photo of the Riviera gives readers the impression that the Riviera is an example of your five-point illustration. Nothing could be further from the truth. The money to buy the Riviera came from the cash reserves of Marukin Corp., a Japanese company with assets of more

than \$1.5 billion, and from a loan from a reputable Japanese bank. None of the membership fee or other income of the club was sent back to Japan but is being reinvested in the Riviera.

Kaneo Watanabe does know Shin Kanamaru, but there have been no instances of any financial impropriety in this relationship. Marukin and a large number of other Japanese companies were served with a search warrant by Japanese authorities in connection with their investigation of Kanamaru. However, neither Marukin nor the Watanabes have been summoned or investigated, and neither are under any serious suspicion by Japanese authorities.

Joe Masaki
Vice-President
Riviera Management Inc.
Pacific Palisades, Calif.

Editor's note: The juxtaposition of the photo and table was not intended to imply that the Riviera is involved in money laundering. Even though the company may not have been notified that it is the target, federal law-enforcement officials say the Riviera purchase is under investigation.

Your article mentioned the activities of Ken Mizuno. Mizuno Corp. is in no way connected or related to the Ken Mizuno in your article. Mizuno Corp. is headed by Chairman Kenjiro "Ken" Mizuno and by his son, President Masato Mizuno.

Jack Curran
President
Mizuno USA
Norcross, Ga.

'BRAVO FOR CHRIS! AN EXECUTIVE WITH GUTS'

I read with interest the article on Chris Steffen ("Is Chris Steffen too tough for his own good?" People, June 7). Bravo for Chris! An executive with guts!

There is a time and place for people to act as lone wolves—and as members of a wolf pack. I think one of the issues holding back America is fear and lack of leadership and skill among executives in dealing with argument, conflict, challenge, diversity, innovation, and creati-

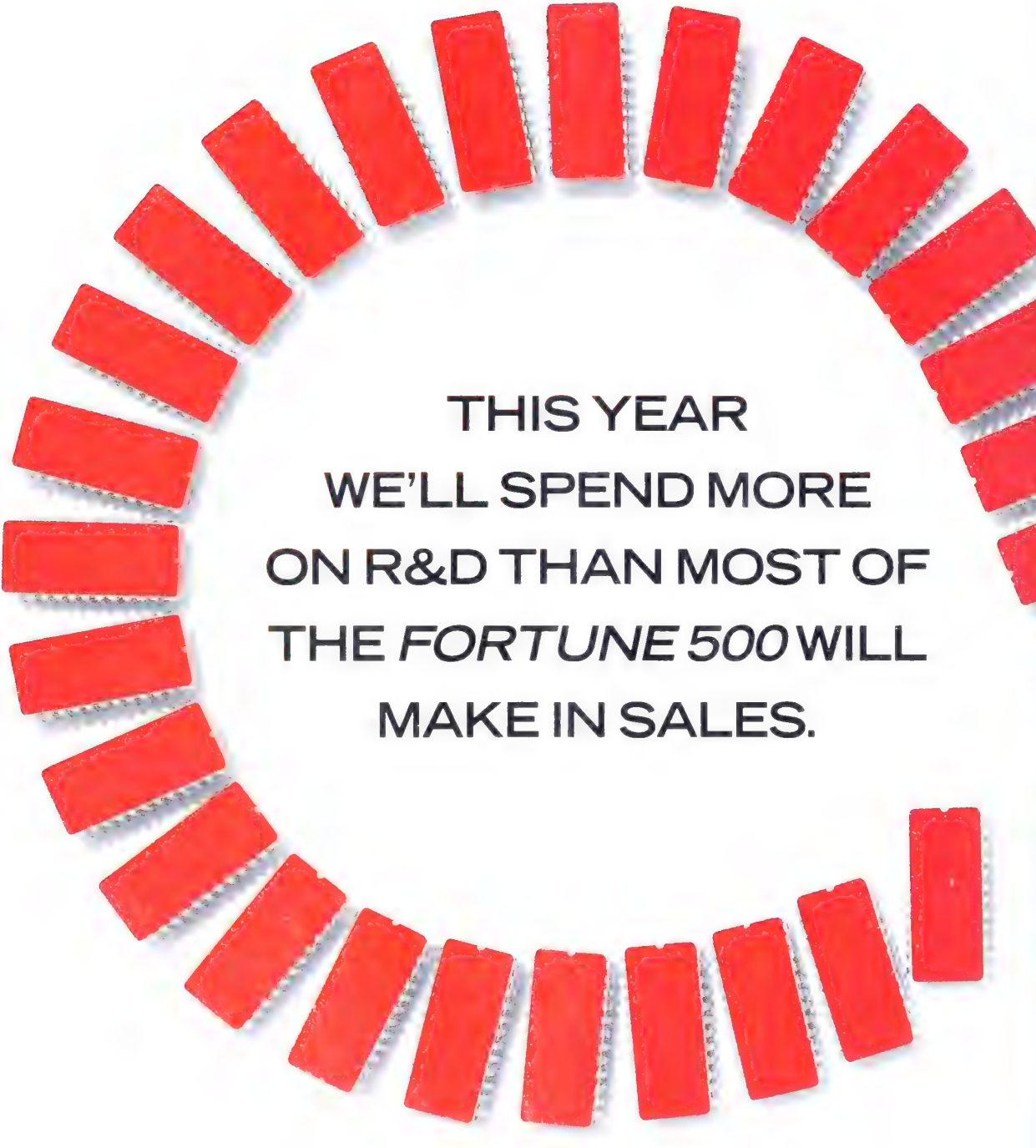
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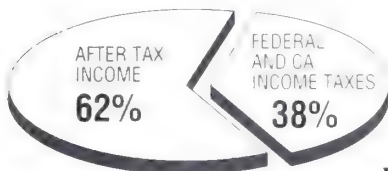
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Readers Report

CORRECTIONS & CLARIFICATIONS

The last page of the foldout, "Guiding investment in hot growth companies" (Cover Story, May 24), contained erroneous information regarding Jones News/Retrieval. CompuServe does not provide any Dow Jones News/Retrieval services. The prices for the standard News/Retrieval service for an individual are a one-time startup fee of \$29.95, an \$11 annual service fee that is currently waived for the first year, and monthly and service charges based on the information used.

ity. I think Americans are too easily offended by things that are a part of life.

Betty-Jean
San Dimas, CA

I have yet to see a leader of a team, institution, organization, or corporation who can accomplish a mission without the dedicated and enthusiastic participation of those being led. Once that has been done, the challenge for Seis is to fit into the resulting organization. It will be interesting to see if he can make dramatic impact and have tenure at Citicorp.

Robert L.
New York

CALL THEM ANYTHING, BUT GIVE THEM FREE SPEECH

We laughed at the cartoon of the water buffalo who called the "anti-defamation league" to complain he had been called a college student. Business This Week, June 7).

The real Anti-Defamation League on record as opposed to campus codes that infringe upon constitutionally protected speech. Bigotry on campus is a serious problem, but the University of Pennsylvania case appears not to have been a real example of bigotry. If it had been, ADL would favor an approach that stresses educational means by which tolerance might be reinforced, while the dangers of bigotry are explored. So-called "hate-speech codes" on campus raise constitutional concerns, and even more importantly, they just don't work.

Abraham H. F.
National ID
Anti-Defamation
New York

Letters to the Editor should be sent to Readers Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax (212) 512-4721. Letters must include an address and daytime and evening phone numbers. We reserve the right to edit for clarity and space.

STRONG MEDICINE

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Books

THE MERC: THE EMERGENCE OF A GLOBAL FINANCIAL POWERHOUSE

By Bob Tamarkin

Harper Business • 465pp • \$27.50

LEO MELAMED ON THE MARKETS

By Leo Melamed

Wiley • 278pp • \$29.95

FROM PORK BELLIES TO SILK PURSE

Until it changed its fortunes abruptly in 1972, the Chicago Mercantile Exchange was an also-ran in a second-rate industry. The Merc's nickname, "warehouse of the Loop," reflected the trading pits' just reputation for shady deals. Its best-known contract—pork bellies—was more a joke than a global calling card.

Fast forward to 1993. Two decades after the Merc changed the world's capital markets by introducing currency fu-

vision and drive created the financial futures industry, delivers a you-are-there version of the Merc's remaking.

Tamarkin's book casts the Merc as a financial-markets pioneer, from its start as a butter-and-egg exchange to its fight for credibility with money-center banks in the 1970s to its forays into electronic trading. The book recounts two of the Merc's darkest moments—the 1987 stock market crash and the government's 1989 undercover probe of fraud in the pits. It

cent past. Nonetheless, publisher Her Business seems intent on burying book's origins. Nothing in *The Merc*, jacket copy, or the press release lauds Tamarkin's "no-holds-barred" reveals the Merc's role. Editor Fr Mount thinks readers shouldn't c "It's not like this was paid for as vertising for the Merc," he says.

Hmmm. At times, Tamarkin d strain credulity, as when he overlo the Merc's hyperdefensive respons the FBI sting. He finds no fault with Merc's decision, after the sting w public, to investigate the trading re of the FBI moles—even though the tice Dept. saw the Merc counterprob a potential obstruction of justice. And gives Merc leaders a pass on their g ing reaction in March, 1991, when yen traders—roughly half of those dicted—were cleared of most char He glosses over a price-rigging sea in the Merc's onion pit in the 1970s, ignores the love-hate relationship tween the Merc and the Board of Th Still, readers who want to unders the Merc's key role in global ca markets will find *The Merc* valuabl

Those already familiar with the change should enjoy *Leo Melamed on the Markets*, by the chief architect the Merc's modern era. Melamed ized his vision of a financial future dustry through force of reason a unique charisma, often conjured du persuasively crafted speeches deliv in a booming tenor to audiences Capitol Hill legislators to dubious York bankers to ambitious founde foreign exchanges. His book br many of those utterances back to

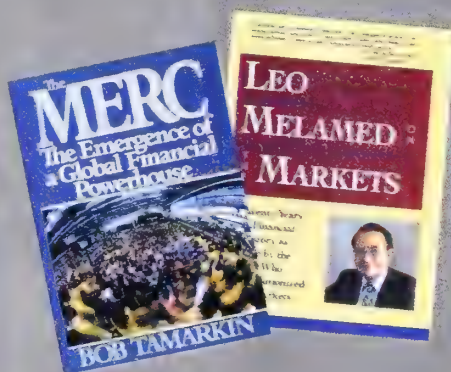
Melamed sets out, rhetorical sa bag in hand, selling the idea of fina futures in the early 1970s. By the he has warned Congress not to c regulate the markets, taken the fu crusade to Europe, and persuaded floor traders to back Globex, which one day make pit-trading obsolete.

In a key fight with Congress in v he won the futures industry unp dented power to regulate itself, amed warns against forcing the ind to constantly justify itself to regula "Pioneerism needs no economic just tion." Today, the people building C go's biggest fortunes aren't ma makers, retailers, or hog bute. They're traders. And today, when p in the world's financial centers about Chicago, Al Capone is somet the second thing that comes to mi

BY DAVID GRE

Chicago Correspondent Greising co-ored Brokers, Bagmen, and Moles: F and Corruption in the Chicago Fu Markets.

Two new books chronicle the Merc's transformation into a center for global financial trading



tures, the exchange is a crossroads of global finance. Contracts valued at \$236 billion change hands each day in its raucous pits as traders swap contracts for currencies, stock indexes, and Euro-dollars, along with pork bellies and live cattle. The Merc is second to none in the diversity of its contracts or in its progressive approach to technology. Globex, the first exchange-based 24-hour trading system, was created by the Merc and was joined only belatedly by its sibling, the Chicago Board of Trade. No one in finance can afford to ignore the Merc anymore.

Two new books chronicle this transformation. In *The Merc: The Emergence of a Global Financial Powerhouse*, journalist Bob Tamarkin traces the exchange's history since its founding in 1919—with a remarkably even hand, given that the Merc commissioned his work. *Leo Melamed on the Markets*, a collection of speeches by the Merc chairman whose

also chronicles the 1992 introduction of Globex, which brought round-the-clock trading of Merc contracts to investors from Chicago to London to Tokyo.

Tamarkin, whose 1986 *The New Gatsby* described the go-go escapades of Chicago traders in the 1980s, here shows insight and an eye for detail. Writing about the '87 crash, he catches Ted Koppel, of ABC's *Nightline*, in a lame turn, using the Muppets to explain the market. This he contrasts with vividly evoked panic in office suites in Chicago, New York, and Washington, as pressure-cooked executives contemplated the prospect of market collapse. One memorable scene: Current Merc Chairman John F. Sander hectoring First Options Corp. into making a margin call of more than \$200 million by threatening to let the media know if the firm failed to pay.

Generally, *The Merc* transcends its sponsorship with its inside look at controversial events in the exchange's re-

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CAN'T ANYBODY HERE DO THIS JOB?

BY ROBERT KUTTNER



Government should take care of essential services. But why can't tax-funded agencies be more customer-driven? Such a competent public sector would help keep private-sector bureaucracies on their toes

Last week, somebody sent me an overnight letter. The U.S. Postal Service tried to deliver it to my house during business hours. I was not home, of course, so the letter was taken away again. Was the document at the main post office? Or out with some postman? I eventually tracked it down, at far greater inconvenience than if it had been sent by regular mail for 29¢.

If private carriers such as Federal Express and UPS can figure out how to leave express letters when the customer isn't home, why can't the Postal Service?

As my local postal superintendent explained, I am not the customer. The *sender* is the customer. And the Postal Service guarantees delivery to the sender. If express letters were left on doorsteps, they might get lost or stolen, the post office might be liable, etc. The Postal Service, however, does let the sender check off a little box authorizing the carrier to leave the letter on your doorstep. So there's no need to be inconvenienced. All you have to do is alert anyone in America who might possibly send you an overnight letter that you prefer it on your doorstep.

Or better yet, call FedEx. According to spokesman Brendon Davis, FedEx decided on its more permissive policy after surveying customers and calculating that the risk of a very occasional lost letter was less than the risk of irritating recipients as well as senders and losing business.

LAST RESORT. In an age when you can't walk into a bookstore without tripping over volumes on the importance of business becoming closer to its market, why can't public agencies become more "customer-driven"? The answer is...they can. As Michael Barzelay of Harvard University's John F. Kennedy School of Government argues in his new book, *Breaking Through Bureaucracy*, public agencies need not remain mired in what Barzelay terms a "bureaucratic paradigm." Government needs to reward results and stop rewarding compliance with nominal rules. Even the post office, to its credit, is learning. The Postal Service has been opening user-friendly retail stores that look and feel like places where you go to shop for services.

It's easy to be too harsh on the Postal Service, whose fledgling entrepreneurial spirit is compromised by its unique national role as courier of last resort. As a public institution, the Postal Service is also vulnerable to the political pressures that operate in a democracy. Did you know, for example, who has the contract to deliver overnight mail for the U.S. government? Federal Express, that's who. The reason is that FedEx can offer volume dis-

counts to large customers—it charges UPS and Sam just \$3.75 per overnight letter—while U.S. Postal Rate Commission requires Postal Service to charge all customers the same flat rate. The Postal Service's private-sector competitors regularly intervene in proceedings to lobby for keeping that rule.

I hope the Postal Service reads this column and does give to a consenting adult recipient the right to trade greater convenience for slightly increased risk of loss. Unlike some of my conservative friends, however, I do not conclude from my encounter with overnight mail that we should just give up and let everything to the private marketplace. I conclude that we need to work harder to improve government.

DUMB RULES. A competent, customer-driven public sector is necessary, partly to provide services—and partly to keep the private sector honest. The Postal Service is far from America's worst bureaucracy. As any doctor reading this column will attest, the worst bureaucracy is the increasingly rule-driven private insurance industry, which now publishes books as thick as a telephone directory telling doctors which procedures they may use and at what rate of reimbursement. Patients and doctors alike want a coherent, simplified, and unified system of health care that returns clinical decisions to medical professionals. But, as always goes, if the government can't run a post office, how can it run a national health system.

Even liberals get exasperated at dumb public bureaucracies—yet the private bureaucracies are neither as efficient nor as self-cleaning as many of their champions insist. If government is to exist at all, we have no alternative to keep making it work better, learning from what both sectors do well. The high-tech revolution that is finally paying off in private-sector productivity (BW—June) could transform the efficiency of the public sector.

And speaking of health care, here is one national anecdote from the front lines of that struggle. My friend Sandra Starr, an epidemiologist at the Health Research & Educational Trust in New Jersey, noticed that hospitals still print out birth certificates in quadruplicate. Certificates are then sent to one of New Jersey's 567 municipal registrars, who place one copy in a thick binder and forward another to the department of health in Trenton, where the information is finally keyboarded into a central data base. Starr suggested that a worker enter data at bedside, using a handheld computer linked with Trenton's central data base. She got the idea from observing FedEx.

ROBERT KUTTNER IS COEDITOR OF THE AMERICAN PROSPECT AND AUTHOR OF THE BUREAUCRATIC PARADIGM

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BY DENISE KORETZ

AMERICAN FACTORIES STILL AREN'T IN A HIRING MOOD

At least on the surface, the Labor Dept.'s revision of payroll employment growth over the past year appears surprisingly good. The 336,000 jobs added to original job-gain figures between March, 1992, and February, 1993, plus hefty increases this April and May, translate into 1.52 million net jobs generated over the past year.

Economist Lacy H. Hunt of HSBC Holdings PLC isn't impressed by the latest numbers, however. "The devil is in the details," he says, "and in this case I think the details show more weakness than strength."

Hunt notes that some 85% of the upward revision reflects a change in the Labor Dept.'s so-called "bias adjustment" for jobs created by business startups that are too new to be picked up by

a recession (chart). Although such jobs account for only some 20% of private-sector payrolls, their influence on economic activity is pervasive.

For one thing, factory workers earn about 2½ times as much a week as lower-paid retail workers. Moreover, according to a recent study of job-multiplier effects published by the Economic Policy Institute, about 4.2 secondary jobs are associated with the average manufacturing job, compared with fewer than two for most service-sector jobs.

In Hunt's view, America's economy cannot achieve long-run prosperity on the basis of service jobs alone. "Until factory employment strengthens significantly," he says, "growth will remain disappointing."

PUTTING THE BRAKES ON WAGES —WORLDWIDE

It wasn't too long ago that the U.S. led the industrial world in wage restraint. Not anymore. Economist Edward S. Hyman of International Strategy & Investment Group Inc. points out that while average wage gains are running about 2.8% above their year-earlier level in the U.S., at last count they were up just 2.8% in Italy, 2.5% in Canada, 2% in Australia, and less than 1% in Japan. And pay hikes have been slowing sharply in Britain, France, and Germany as well.

Hyman thinks the global wage slowdown, which he attributes to high unemployment and "inexorable competitive pressure from developing economies," could drive U.S. inflation and bond yields even lower in the months ahead.

A \$1 COIN COULD SAVE UNCLE SAM \$400 MILLION A YEAR

It seems almost too good to be true. According to recent studies by the General Accounting Office and the Federal Reserve, the government could cut the deficit by \$400 million a year—or \$12 billion over the next three decades—simply by replacing the inflation-battered dollar bill with a coin of equal value. The savings would come in good part from not having to print and process paper notes, which have an average life of less than 18 months, compared with 30 years for a coin.

The idea flopped in 1979, when the government introduced a Susan B. Anthony dollar coin that people confused

with a quarter. Moreover, a 1990 found that nearly 60% of Americans don't favor a dollar coin. But such changes have been successfully implemented by almost all other industrial countries. In fact, based on current exchange rates, coins worth from \$1.40 to \$4 are now jingling in the pockets of the buying public in such countries: Australia, Britain, France, the Netherlands, and Spain.

In every case, such higher-value coins faced initial public resistance but won increasing acceptance as the notes they replaced were removed from circulation. Canada introduced a dollar coin in 1989 and roughly half of Canadians now favor the move, while a further 32% feel neutral about it. The GAO thinks a dollar coin could fare as well in the U.S. Congress and the Treasury really have to get behind the conversion.

Of course, that would mean braving popular resistance. Given the current hypersensitivity of Congress and the Administration to the vagaries of public opinion, that doesn't seem likely. But the mood changes in Washington, placing the aging greenback with a dollar coin may just turn out to be an idea whose time has come.

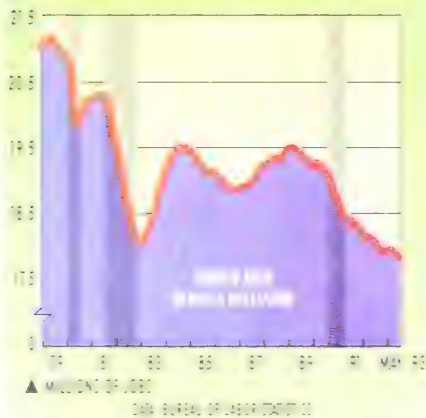
IF RATES START RISING, STOCKS MAY JUST GET A SECOND WIND

Although the latest round of inflation numbers is reassuring, many experts think both inflation and interest rates are still likely to trend higher the year ahead. Does that mean stock prices, which have been powered by falling interest rates since 1989, are headed down?

Not in the opinion of economist John R. Solloway of Argus Research Co. Although bull stock markets are usually ignited by falling rates during recessions and choked off by high rates during expansions, he points out that stocks tend to keep rising for a long time after interest rates start to climb. Indeed, analysis of past stock market cycles indicates that short-term rates have turned up 11 times during bull markets since 1954. And in every case but one, stock prices continued to post gains.

During those 10 episodes, reports Solloway, the average rise in interest rates before the bull breathed its last breath was nearly 2½ percentage points, the average increase in the Standard & Poor's 500-stock index, from the short-term rates bottomed out until the ultimate peak in stock prices, was a hefty 27.5% over a 16-month span.

MANUFACTURING PAYROLLS SINK TO A NEW LOW



much of the payroll gains over the past year are based on "a fudge factor that is an educated guess at best."

More important, Hunt points out that the upward revisions were concentrated in low-paying industries such as wholesale and retail trade, health services, and personal and business services. Employment levels in the higher-paying construction, finance, and manufacturing sectors were actually revised down. Indeed, the number of factory jobs hit a 28-year low in May.

The continuing decline in manufacturing employment is particularly ominous, Hunt believes, because this is the first time in the postwar period that it has failed to bounce back in the wake of



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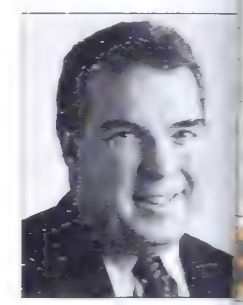
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INFLATION IS ABOUT AS REAL AS SPIELBERG'S DINOSAURS

The inflation numbers for the first four months of 1993 resemble the computer-generated dinosaurs roaming around *Jurassic Park*: huge and very scary. Now clear that the celluloid tyrannosaurs and winter jumps have something else in common: Both are imaginary rather than real.

In contrast, the May price indexes had all the ferocity of a Barney doll. The consumer price index rose a scant 0.2% and the producer price index didn't increase at all. Inflation measures had posted steep gains in April—0.7% for the CPI and 0.6% for the PPI.

But it was not just the April data that had everyone from the bond market to the Federal Reserve running for cover. Inflation during the first four months of 1993 had jumped to 4.3%, at an annual rate, from 2.9% for all of 1992. Now, CPI inflation through May is running at 3.8%. For the full year, 3% still looks like a good bet.

For that to happen, the CPI had to post monthly gains averaging 0.2% for the first five months of the year. That's certainly possible, since most of the year's bad inflation news is probably behind us. Why? Because for three years running, the core CPI—excluding energy and food—has risen faster in the first four months of the year than in the final eight. That suggests the government's seasonal adjustments are not fully reflecting seasonal pricing patterns.

FED PUTS INFLATION ON HOLD The fact is, the early-year price scare did nothing to alter the annual trend of inflation (chart). The May CPI stood 3.2% ahead of its year-ago level, not much different from its yearly rate of May, 1992. Yearly core inflation through May is running at 3.5%, down from last year's 3.9%. For the PPI, core inflation is now 1.7%. Except for a temporary blip in 1985, that's the lowest since 1967. Much of last month's moderation in consumer prices came from a slowdown in housing costs after a large drop in April. Also, prices for apparel, entertainment, and transportation fell in May—the latter reflecting a 2.5% drop in gasoline prices. All that more than offset sharp price increases for drugs and medical equipment, air travel, education, and other personal services.

May price data remove any fears that a tightening monetary policy is imminent. In particular, the bond market

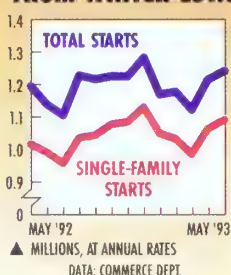
heaved a sigh of relief after the numbers came out. The yield on 30-year Treasury bonds dropped to 6.82% on June 15, after hovering at 7% just two weeks earlier.

The Fed's apparent new slant toward higher short-term interest rates means that the central bank could lift rates whenever policymakers feel such action is warranted. However, the May numbers strongly suggest that inflation is unlikely to test the Fed's resolve anytime soon—and perhaps not for months to come.

None of the fundamentals driving the bright outlook for inflation has changed. Both demand and cost pressures under prices remain largely absent, mainly because so much labor and productive capacity remains underutilized—both in the U.S. and around the world.

Basically, this moderately growing economy cannot support bronto-size price increases. To be sure, the U.S. is on track to grow by about 3% for the rest of 1993, indicated most recently by the trends in retail sales and housing starts (chart). But because that solid pace is coming after years of subpar growth, the economy has a lot of room to expand before it bumps up against any constraints that might fuel price hikes.

HOUSING REBOUNDS FROM WINTER LOWS



WINTER STORMS BLEW OFF ORDERS

The latest evidence: Industrial production in American factories, mines, and utilities continued to rise only moderately in May. Output rose 0.2%, the same advance as in April. Manufacturing output alone also increased by 0.2% in May, after a 0.5% gain the month before.

So far in the second quarter, factory production is rising at a healthy 3.4% annual rate from the first quarter. However, that pace masks two divergent patterns. Output of business equipment, up at a 7.2% rate so far this quarter, has accounted for most of the strength.

On the other hand, production of consumer goods has barely grown. Output levels of automobiles and light trucks were especially weak in May, dropping 4.8% and 4.3% respectively from April levels.

Right now, manufacturers of consumer goods are suffering from a temporary slowdown in ordering. The sudden drop-off in consumer demand because of the winter storms caused a backup in retail inventories that stores had to work down.

By April, though, that adjustment seemed largely com-

Business Outlook

plete. Business inventories in manufacturing, wholesaling, and retailing rose only 0.1% that month, following a 0.6% jump in March. In particular, retail-stock levels rose by 0.3% in April, following 1.3% surges in both February and March. The slowdown in inventory growth clears the way for further output gains this summer.

However, factory operating rates remain relatively low. Manufacturing utilized 80.8% of its production capacity in May, unchanged from April. That rate remains below the levels historically associated with conditions that accompany a broad acceleration in goods prices.

Even in industries that are operating at relatively high rates of capacity utilization, there are still

no signs of price pressures. In May, operating rates in textiles, aluminum, paper, petroleum, lumber, and machinery including computers each topped 85% (table). However, except for lumber and oil, May producer prices in these industries were below their year-ago levels.

WHERE CAPACITY IS TIGHTEST

Industry	May '93
PAPER	91.8%
PETROLEUM REFINING	91.6
ALUMINUM	91.4
TEXTILE MILLS	90.4
LUMBER	87.0
MACHINERY & COMPUTERS	86.6
ALL INDUSTRIES	81.6

DATA: FEDERAL RESERVE

NEW NESTS ARE BEING FEATHERED

Even as inflation remains tame, the latest data on housing and retail sales show that consumers are willing and able to keep the economy from falling back into the tar pits of recession. Housing starts increased 2.4% in May, to an annual rate of 1.24 million. In addition, the April starts number was revised higher. These gains mean that starts are running at an annual rate of 27% above their first-quarter average.

The spring jump in homebuilding isn't surprising. Sales of new single-family homes had surged 22.7% in April, pushing the inventory of unsold new homes to a 22-year low. Clearly, to meet growing demand, builders had to start pouring foundations and squaring walls.

Buyers are reentering the housing market because mortgage rates remain favorable, while jobs and income growth are beginning to show more life. This combination augurs well for builders and housing-related industries the months to come, especially if the better inflation outlook pushes mortgage rates even lower. In particular, demand for home-related goods will bounce back as homeowners start to furnish their new digs.

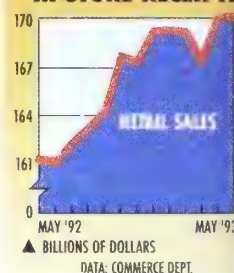
That's why retailers should enjoy a fairly busy summer. In May, store sales edged up by 0.1%, on top of a sharp 1.5% advance in April (chart). The April gain, which was revised from a 1.2% increase, shows that merchandisers have more than recouped the sales lost during the winter when retailers failed to post an increase in any of the three months during the first quarter.

Already in the second quarter, however, inflation-adjusted sales volume is up at an annual rate of about 2%. And the news for June is encouraging as well. Sales of U.S.-made vehicles stood at an annual rate of 12 million for the first 10 days of the month, not far off their very strong 12.1 million pace for all of May.

So with shoppers clearing out the winter buildup of inventories, retailers will have to start ordering new merchandise, and factories will have to gear up output and expand payrolls. But because of continued slack in the labor markets and the absence of production bottlenecks, the increase in economic activity won't generate much in the way of price pressures probably until 1994.

Sometime between now and then, the Fed will feel compelled to head off those pressures. The central bank knows that, unlike the dinosaurs, inflation isn't extinct. But right now, it isn't roaming free, either.

A STEADY UPTREND IN STORE RECEIPTS



THE WEEK AHEAD

FEDERAL BUDGET

Monday, June 21, 2 p.m.

The federal government will likely report a budget deficit of \$38 billion in May, says the median forecast of economists surveyed by MMS International, a unit of McGraw-Hill Inc. Washington posted a larger shortfall in May, 1992: \$46.8 billion. But this year, stronger income tax receipts from both individuals and corporations and the absence of funding for the Resolution Trust Corp. are helping to lower the U.S. deficit.

DURABLE GOODS ORDERS

Wednesday, June 23, 8:30 a.m.

New orders taken by durable goods manufacturers probably increased by

1.2% in May. New orders have fallen in three of the past four months, including a 0.3% slip in April. Those declines reflect the ongoing cuts in military purchases and weakness in commercial-aircraft demand, as well as a buildup of retail inventories. Now, however, stores have whittled down their stock levels and are probably starting to order more goods again.

INITIAL UNEMPLOYMENT CLAIMS

Thursday, June 24, 8:30 a.m.

New filings for state unemployment insurance benefits are likely to total about 340,000 for the week ended June 19, down slightly from their 345,000 pace in the first week of June. Despite increased hiring in April and May, the

number of people filing for jobless benefits remains relatively high. In particular, laid-off factory workers continue to fuel the unemployment lines.

PERSONAL INCOME

Thursday, June 24, 10 a.m.

Personal income probably rose by 0.7% in May, project the MMS economists. That healthy gain is indicated by the increases in both nonfarm payrolls and average weekly earnings. Household income was flat in April because of a falloff in government subsidies paid to farmers. Consumer spending in May probably rose by 0.3%, after a 1% jump in April. The smaller May increase is suggested by the 0.1% advance in retail sales for the month.

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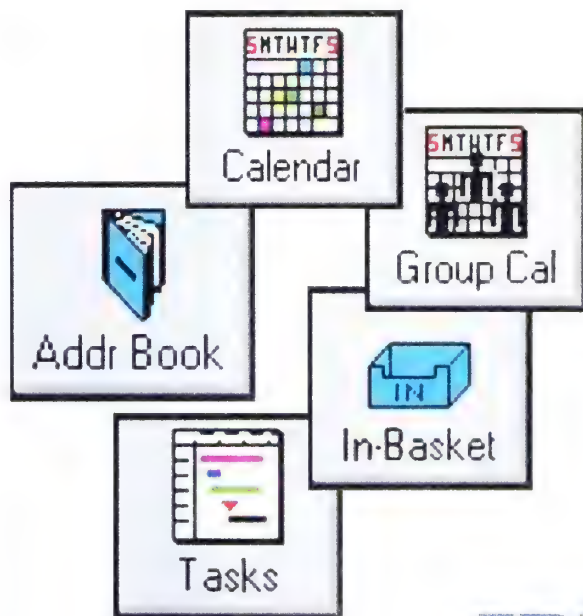
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SO MUCH FOR MAKING NICE

DUPONT SETTLED FUNGICIDE CLAIMS, THEN STOPPED. THAT MAY COST IT DEARLY

When nursery owners who used the DuPont Co. fungicide Benlate DF started finding their flowers and shrubs stunted and discolored a few years ago, DuPont executives took the high road. Rather than fight an expected trickle of complaints, they paid growers' claims. The goodwill gained would be worth it, they figured, if only to preserve the company's stellar reputation in agricultural chemicals, a market DuPont dominates in the U.S. Indeed, Chairman Edgar S. Woolard Jr.'s long-term game plan called for the \$1.8 billion business to be an engine for DuPont growth.

Today, DuPont may regret that decision. Without admitting liability, it has paid \$500 million so far to settle claims by 2,000 farmers. The payments required \$350 million in write-offs, cutting the company's net income by 7.5% in 1991 and 8.3% in 1992. Then, last fall, DuPont stopped writing checks, insisting that its scientists, in a year-long, \$12 million effort, had found that Benlate DF was not at fault. Without other options, growers in 40 states quickly filed nearly 500 lawsuits that could cause DuPont's liability to skyrocket. The first case, set for trial in Columbus, Ga., on July 6, claims \$148 million in punitive and actual damages for four growers. Woolard insists that DuPont will prevail. "We're anxious to go before a jury," he declared at a June 16 news conference.

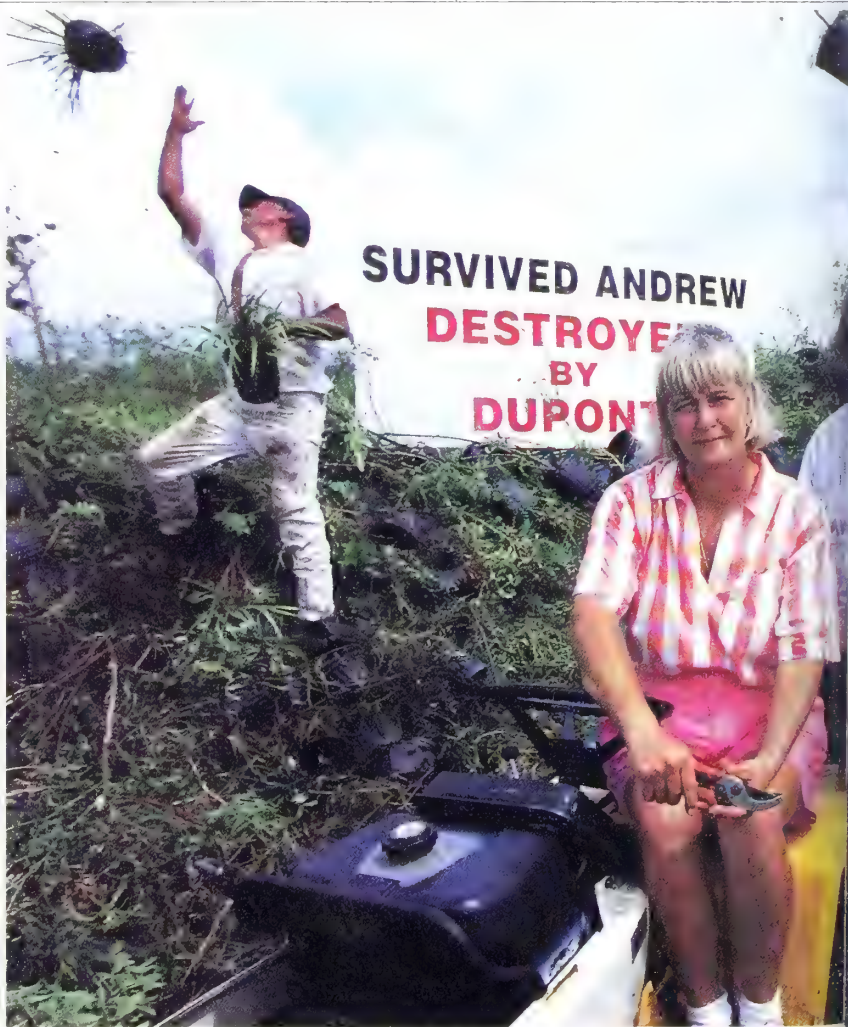
TARNISHED. If the chairman is wrong, the impact on DuPont could be enormous. Benlate DF has cast a pall over the company's agricultural business, tarnishing its reputation with farmers. The case also threatens DuPont's \$100 million in annual sales of powdered Benlate, a predecessor of DF that's still on the market. DuPont's credibility with the Environmental Protection Agency, meanwhile, is badly strained. Regulators in the important farming states of Florida and Hawaii are furious—as are some DuPont insurers. Exel Ltd. and Ace Insurance, both of Bermuda, are refusing

to reimburse the company for \$105 million in growers' claims.

Beyond that, Benlate's troubles could damage Woolard, who has put his credibility on the line in defending DF. In an interview on June 16, he noted that he has personally monitored the Benlate problem since it began in 1989 (table). The chairman has already lost one showdown: In mid-May, despite Woolard's testimony to the contrary, U.S. District Court Judge J. Robert Elliott in Columbus ruled that DuPont had withheld key

documents from plaintiff's lawyers. A judge threatened to fine the company a million unless it moved faster. DuPont says it is cooperating fully.

DF could become a classic example of a product-liability strategy gone sour. Indeed, Woolard says, "a policy that hoped might set a new standard for responsiveness and corporate responsibility has ended in an assault" on DuPont. Most DuPont ag executives decline to discuss how that happened. But they have a wealth of detail in internal compa-



filed with suits around the count-
intiffs' lawyers plan to use these
nts, and hundreds of hours of
ions, to sketch out what they see
DuPont cover-up. "We've been call-
enategate," says Miami attorney
Vendittelli, who represents sev-
orida nurseries. DuPont officials
deny a cover-up, arguing that
over three million documents is
rently slow process, and counter
eir studies prove Benlate is safe.
FACTORY. DuPont had sold pow-
Benlate since 1970 with few prob-
hen, in 1987, it rolled out a granu-
sion, DF. Memos filed in the
s show that when Midwest grow-
an complaining about DF in May,
DuPont officials blamed an Arkan-
mical plant where contractor Ter-
national Inc. turned the DuPont
al benomyl into Benlate.

It had been a problem for a while.
retired DuPont ag products exec-
Theodore N. Kirchner, warned his
ues in September, 1988, that
keeping" at the contractor was
control," raising a risk that other
als—such as the herbicide atra-

zine—could contaminate
Benlate DF. A Terra at-
torney concedes there
were problems. And,
without admitting or de-
nying guilt, Terra later
acceded to a \$97,200
EPA fine for distributing
contaminated DF. The
Terra attorney says the
company's operations
now are clean.

In August, 1989, sus-
pecting atrazine con-
tamination, DuPont re-
called the batches of
Benlate DF Terra made. As claims
climbed toward \$65 million, DuPont per-
suaded Terra and the contractor's insur-
ers to pay up. Just a month later, Du-
Pont scientists told the EPA in a letter
that amounts of the herbicide found in
DF couldn't have caused the damage
growers alleged. But Terra says in a
lawsuit seeking return of its \$65 million
that DuPont never told it about that
finding. DuPont has countersued, claim-
ing that Terra is bound to pay damages
by the terms of its production contract.



**DUPONT'S WOOLARD INSISTS
BENLATE DF WAS SAFE**

But the contamina-
tion question so ob-
sessed executives that
some complained of be-
ing distracted. Ronald
A. Hamlen, a scientist
who helped register
chemicals with the EPA,
told colleagues in an
August, 1990, memo:
"The thought of what
we aren't doing while
we are drowning in this
issue scares the hell out
of me." Woolard de-
clined on June 16 to dis-

cuss specific memos. He added that, tak-
en separately, they don't tell the full
story of DuPont's inquiry.

RECURRENT NIGHTMARE. In early 1991, as
more farmers claimed damage, DuPont
again found traces of atrazine in Ben-
late. In March, the company recalled DF
for good. On March 28, the EPA fined
DuPont \$1.3 million for the 1988-89 atra-
zine contamination, a penalty DuPont is
still contesting. By the middle of that
year, the worries inside DuPont were
mounting. In May, agriculture products
executive Kent M. Reasons visited sales-
people in Florida and reported to his col-
leagues a list of complaints about Du-
Pont's handling of DF. "We have the
obligation to clean up the mess and al-
low people to get on with their lives and
businesses," Reasons told them.

Some DuPont lawyers, meanwhile,
were worrying about the company's le-
gal exposure. One outside counsel,
Thomas M. Burke, wrote to an in-house
lawyer in September, 1991: "It is a much
better litigation position to state that we
have looked, are looking, and will contin-
ue to look but have had no success, leav-
ing the issue unresolved, than it is to
have to admit that we have isolated the
mechanism of injury." He urged that a
"broad, basic science search" be contin-
ued, but warned that finding a cause for
alleged Benlate DF damage would help
make a plaintiff's case. Burke declines
to comment on his memo. A DuPont
spokeswoman says that Burke was only
addressing the company's dealings with
insurers.

In fact, DuPont scientists and outside
researchers kept looking. Some memos
suggest that at times some DuPont sci-
entists thought they had the answer. In
a September, 1991, memo, researcher Mi-
chael J. Duffy summarized the findings
of an internal team that DF could cause
crop problems even when used properly.
Among other things, he said manufact-
uring problems could boost the amount
of DF's active ingredient above amounts
listed on the label. Now, DuPont says,

DUPONT'S BENLATE TROUBLES WON'T WITHER

*DuPont's problems with Benlate DF be-
gan in May, 1989, when growers com-
plained that the fungicide damaged crops.
By March, 1991, DuPont ordered a full re-
call of Benlate DF and continued paying
claims while denying liability. Here's what
happened next:*

SEPTEMBER, 1991

DuPont scientists
say Benlate can be
damaging even when used properly. Du-
Pont says they were theorizing.

NOVEMBER, 1992

DuPont halts pay-
ments to settle Ben-
late claims from growers.

APRIL, 1993

The U.S. District Court
in Columbus, Ga., threat-
ens to fine DuPont \$500,000 for with-
holding Benlate documents.

MAY, 1993

DuPont CEO Edgar Wool-
ard denies withholding evi-
dence. Unconvinced, the court doubles
the potential fine.

JUNE, 1993

The Florida Agriculture
Commissioner charges
that DuPont has long known of Benlate's
problems. DuPont denies the charge.
DuPont now faces nearly 500 Benlate-re-
lated lawsuits.



**FLORIDA NURSERY
OWNERS WITH
SICKLY PLANTS**

DATA: COMPANY REPORTS, BUSINESS WEEK



BENLATE DF HAS HURT DUPONT'S STELLAR REPUTATION IN AGRICULTURAL PRODUCTS

such "theorizing" hasn't proved out.

In fact, some plaintiffs contend that DF by itself may not have caused problems. Based on evidence they won't yet divulge, lawyers in the Georgia case think the product was contaminated by a weed-killer, sulfonylurea. DuPont makes that chemical in the same plant in Belle, W. Va., that produces benomyl, the active ingredient in both types of Benlate. "Sulfonylurea is a significant cause of the problem," claims Atlanta attorney C. Neal Pope, who represents the four growers in the Columbus case. DuPont emphatically denies this.

Whatever caused the damage, DuPont faces a tough go in Georgia. Besides railing against DuPont for being so slow to turn over documents, Judge Ellington on June 11 raised the stakes higher. He told DuPont he might personally enter a verdict against it on some claims, rather than leave the decision to a jury.

NO SHOW? DuPont also may get roughed up in Florida. The state's agriculture commissioner, Bob Crawford, said in early June that documents he's seen prove that DuPont knew of DF's problems early on. He has subpoenaed Woolard to testify about what DuPont knew, and when. Woolard, saying Crawford is "playing politics," says he won't appear.

It's unclear whether the courts will ever uncover what caused so much crop damage. The public evidence so far is inconclusive. On June 16, in fact, Woolard challenged plaintiffs to have original lots of Benlate DF tested on their plants in university labs and offered to pay for past crop damage if the chemical proves harmful—as long as they agree to drop their suits if there's no damage. DuPont Agricultural Products Vice-President William F. Kirk has said that "no other corporation has been so forthcoming and responsible." He'll find out soon enough whether juries agree.

By Joseph Weber in Wilmington, Del., with Gail DeGeorge in Miami and Mary Beth Regan in Washington

THE COURT

RUTH BADER GINSBURG: 'SO PRINCIPLED, SHE'S UNPREDICTABLE'

The centrist high court nominee isn't bad news for business

Ruth Bader Ginsburg is no Earl Warren. And for that, business can be grateful.

For three months, President Clinton hunted for a U.S. Supreme Court nominee modeled on the late Chief Justice and California governor—a bold politician who could muster a bloc to counter the court's conservatives. But when he nominated Ginsburg on June 14 to succeed retiring Justice Byron R. White, Clinton got a detail-oriented professional whose rulings as a judge on the District of Columbia Court of Appeals reveal neither a conservative ideologue nor a wild-eyed radical. "She harbors no animosity toward Corporate America," says Washington lawyer Bruce Ennis.

That's welcome news to business, which has yet to get a fix on the real Bill Clinton, a would-be moderate who does not shy from business-bashing. But whether Ginsburg's meticulous manner will translate into a record on the high court that business can bank on is unclear. The 60-year-old Ginsburg is "so principled, she's unpredictable," says Washington lawyer Timothy B. Dyk.

Indeed, Ginsburg frequently has parted ways with fellow Carter appointees to side with conservatives. In a contentious case decided in 1987, for instance, Ginsburg voted with the appellate court's conservative bloc, led by Judge Robert H. Bork, to disallow a utility rate increase over a vigorous dissent by Judge Abner J. Mikva and the other liberals. And last year, she voted to strike down Washington's minority-contracting program because it didn't follow a Supreme Court ruling that before cities can set aside contracts for minorities, officials must first establish that a pattern of discrimination exists.

Then again, Ginsburg doesn't mind leaning to the left. She has teamed up with liberals to back decisions in cases

supporting environmental cleanup, civil rights, for instance. And it is issues relating to women's rights that Ginsburg has left the clearest inkling of her philosophical bent. A pioneer litigator in the field, she successfully argued five Supreme Court cases for the American Civil Liberties Union that expanded constitutional protections for women. In 1973, for example, as a Columbia University law professor, she won a ruling that says the military must provide the same benefits for husbands of female employees that it offers to wives of servicemen. Yet, even in this area, she has parted ways with some women's groups by declining *Roe vs. Wade*, the controversial 1973 ruling that legalized abortion. Ginsburg finds fault with the broad lea-

basis of the ruling and has been consistently categorized as pro-choice.

OPERA BUFF. A willingness to favor principle over politics could help Ginsburg bridge gaps between warring factions on the high court. Her preference for strong majority opinions should also be a blessing to a court that is producing a large number of splintered decisions. Some observers, including lawyers for business, fear such rulings lack the authority to guide lower courts.

In the end, it will hurt that Ginsburg already has some powerful friends on the court. She is pals with



Ginsburg is pals with Justice Scalia, sharing his passion for opera

Justice Antonin Scalia, with whom she shares a passion for opera, and passed many clerks on to Justice Sandra Day O'Connor. While Ginsburg may be the "home run" appointment that Clinton once promised, an easy political win might be just what the President needs right now—not to mention a slight addition to a court that lately has been better known for its personality squabbles than its jurisprudence.

By Catherine Yang in Washington

SUDDENLY, THE RAH-RAH PRESIDENT

For his first five months in office, President Clinton seemed to think that the secret to muscling his economic plan through Congress lay in mumbling the economy. As he struggled to save his misbegotten stimulus package, he warned repeatedly that the nation was threatened by a "less recovery." The strategy led the President and his allies to a dark cloud around every silver lining.

Just days after Clinton took office, for instance, the Labor Dept. reported that the economy had produced 106,000 new jobs in January, the longest showing since July, 1992. Pretentious, right? Not if you were a Clintonite. President Clinton took to the airwaves on Feb. 10, fretting: "Our economy is still not producing enough jobs." In February, employment was up by 100,000. Clinton's response? "We certainly cannot declare victory yet." And Administration officials were quick to see March's ther-wracked decline of 22,000 jobs as a signal that the economy was back on the cusp of recession.

But that was then. Now, Clinton is singing a very different tune. He suddenly seems to recognize that it's his economy, and he may as well claim credit for the good news—even though his policies may have little to do with improvement. So, at his June 15 press conference, Clinton bragged about low interest rates, low inflation, a shrinking trade deficit—and took credit for 755,000 new jobs this year. The same day, in a speech to the American Trucking Assn., Treasury Secretary Lloyd M. Bentsen, who had lately pushed econo-optimism for months, pointed to big sales increases in new houses and cars, noting: "The underlying fundamentals are good for the economy." Clinton's upbeat tone marked his age as a move from econo-pessimist to cheerleader. Some observers give new me-

diameister David R. Gergen, who learned happy talk at the knee of Ronald Reagan, credit for the shift. But circumstances have changed, too. The Clintonites have shifted their focus from stimulus to deficit-reduction—and that makes it a lot easier to talk up the economy. Administration talking heads point to low interest rates—30-year bonds are yielding about 6.8%—and warn Congress that backsliding on the deficit may jeopardize cheap money. That argument may have helped get

\$200 billion in tax hikes. But they are increasingly worried about being labeled obstructionists. If the economy is indeed strengthening, Clinton and congressional Democratic candidates will take credit for any recovery. And the GOP, whose reputation as the party best able to deal with the economy was badly tarnished during the Bush years, will suffer another blow. Clinton's newfound optimism may plant nagging doubts in GOP minds. A handful of Republicans might decide that the way to

bask in the economy's glow is to back the Clinton program.

BITTER PILL. Clinton runs a risk, though. He'll need public support for the spending cuts and tax increases in his deficit-reduction plan. If he sounds too boosterish, voters' willingness to sacrifice may wane. "Unless people believe the problem is severe, they are less likely to take the painful medicine," says Democratic pollster Geoff Garin. "The fine line Clinton is walking is making people retain that urgency and at the same time feel better about the economy."

So the President's new message is one that mixes short-term optimism with continued warnings about the future. He is, for the first time, taking a page from Franklin Roosevelt and Reagan: He's claiming credit for the modest economic recovery and trying to convince voters that they will see greater improvement as long as they stick with him.

Clinton, whose moods are as changeable as the weather, may not stick with his new rhetoric for long. And he still has a long way to go before he can really sell the idea that the past few months of economic growth are his doing. But for now, at least, he seems to have figured out that there's a parade under way. And the best place for the President to be is at its head.

Howard Gleckman follows economic policy from Washington.



Happy Days: Clinton is taking a cue from FDR and Reagan. He's claiming credit for the modest recovery and telling voters there's more where that came from

the deficit package over one big hurdle: squabbling Senate Finance Committee Democrats, who agreed to a tax and spending package that includes a 4¢-a-gallon fuel tax on June 16.

The new emphasis offers two other potential benefits. The first is economic: Go-go talk from the President could become a self-fulfilling prophecy. Gloomy Americans have begun buying again—auto sales are surging—but consumers still haven't fully shaken off the malaise of the past few years. While White House pep talks don't always help, Clinton wasn't bolstering consumer confidence by endlessly telling the public that things were worse than they seemed.

The second potential payoff is political. Congressional Republicans would like to stonewall Clinton's deficit-reduction plan, which includes more than



COMMERCE SECRETARY BROWN HOBNOBBED WITH ARMS EXECS AT THE PARIS AIR SHOW

MEET BILL CLINTON, ARMS MERCHANT

After a nervous spell, the weapons industry returns to business as usual

A collective shudder ran through the defense industry when Bill Clinton won the Presidential election. Many of his national security appointments were old hands from the Carter Administration, a moralistic bunch who frowned on overseas weapons sales. But five months into his new Presidency, it's clear that Clinton wants to help, not hinder, defense exporters.

Driven by a desire to boost U.S. competitiveness and to cushion job losses in the defense sector, top Clintonites from Secretary of State Warren M. Christopher on down have backed continued sales of conventional weapons to U.S. allies. The most visible sign yet: Commerce Secretary Ronald H. Brown hobnobbing at the June 11-20 Paris Air Show. "Clinton realizes these exports create jobs," says Brian H. Rowe, president of General Electric Co.'s aircraft engine unit. Indeed, weapons merchants are becoming increasingly dependent on overseas markets. Without exports, production of GE's F-110 engine and General Dynamics Corp.'s M-1 Abrams tank would probably end, for instance.

Despite the big export push, overseas sales are starting to slow. Saudi Arabia and Kuwait have their hands full—and their wallets depleted—taking delivery of billions of dollars' worth of already ordered U.S. tanks, fighter jets, and Patriot missiles. Taiwan, another big buyer, may take a breather after coughing up \$5.8 billion for 150 Lockheed F-16 fighters and \$2.6 billion for French Mirage jets.

The overseas backlog was a big reason the biennial Paris aerospace confab was so low-key. Cost-conscious companies reduced their attendance at the industry extravaganza, and buffets replaced waiter service at some corporate receptions. AlliedSignal Aerospace sent

42 employees, down from 170 in 1987. Martin Marietta Corp. didn't show at all. With budgets curbing military development, the only demonstration flight of new aircraft were of Airbus Industrie A330 passenger planes. "For a guy who likes airplanes, there's no sexual satisfaction in watching a commercial airplane fly over," GE's Rowe says.

Things could be worse. "The Europeans are in much more desperate straits than we are," says Joel Johnson, international vice-president of the U.S. Aerospace Industries Assn. Hobbled by smaller markets, European arms manufacturers can't match U.S. development spending. That allowed U.S. companies to beat European competitors on their home turf. McDonnell Douglas Corp., for instance, is selling Finland F/A-18s to replace Russian and Swedish fighters, while Switzerland will buy F/A-18s to replace some aging French warplanes. Grumman Corp., with no European competitors for its E-2C carrier-based surveillance aircraft, will sell four of its planes to France. And the Russian military's big presence at the Paris show, with doubts about their ability to service the equipment they are so eager to sell,

DISMAYED DOVES. To bolster their hands, the Americans are taking advantage of orders for upgrades—new missiles, avionics, and radar—that can extend the life of aging airframes. "The cost of airframes has gotten so high that people try to squeeze more life out of them by upgrading," says William Benso, president of Martin Marietta Overseas Corp. Martin is pitching its Lantirn night-navigation system for F-16s in several European air forces. Hughes Aircraft Co. will have plenty of work supplying the radar and the Sidewinder, and Sparrow missiles that the Saudi F-15s will carry. Indeed, Hughes's military exports swelled to \$1.5 billion in the past two years, from \$1 billion in the decade before.

The pro-industry tilt of the first Bush administration in 12 years is dismaying to arms-control advocates who want the U.S. to forgo some overseas sales to set an example. But with Clinton focused on the domestic economy, the thousands of jobs at stake in places such as vote-rich California are probably more important than pleasing peaceniks.

By Amy Borror
Washington and Star
Toy in Paris, with
Schine in Los Angeles

WHO'S BROWSING THE U.S. DEFENSE SUPERMARKET

SWITZERLAND Plans to buy 34 McDonnell Douglas F/A-18s for \$1.7 billion

MALAYSIA Wants 18 F/A-18s, which will cost more than \$1 billion

ISRAEL Is shopping for \$2 billion in F/A-18s or Lockheed F-16 fighters

KUWAIT In January, bought 218 General Dynamics M1A2 tanks valued at \$4 billion; wants 20 F/A-18s and up to 24 Apache helicopters

SINGAPORE Is eyeing 25 General Electric engines, worth \$70 million, to power an expected order of F-16s

FRANCE Is buying four Grumman E-2C carrier surveillance planes worth more than \$500 million; Indonesia, Korea, Thailand, and Turkey also want the planes

AUSTRALIA Is buying \$500 million worth of antisubmarine systems from Martin Marietta

DATA BUSINESS WEEK

WID NOW, **MONOLITH HOSPITAL**

ent combinations may be a harbinger of a massive consolidation

Upstart Columbia Hospital Corp. bolts from nowhere into a \$4 billion merger with Humana Corp. off Galen Health Care Inc. Suddenly there's a \$5 billion goliath on the scene, operating 99 hospitals more than 22,000 beds. Only a four-tal chain four years ago, Columbia now dead-even with current leader Hospital Corp. of America.

Small wonder the June announcement won big lines. But those who d brush aside the profile union as a one-kind throwback to the eldy hospital conglomerates of the 1980s miss larger forces nourish Columbia's growth and aping the health-care scape. Fort Worth d Columbia, led by er Richard L. Scott o-founded by Richard ainwater, onetime ad to the Bass family, is g a wave of pressure maintain health-care ty while lowering Rainwater calls it Wal-Mart approach to care." Like that reg giant, Columbia ses to take its effi religion to 15 new ets served by Galen. t W. O'Leary, CEO of chain American Medioldings Inc., calls the 'a wake-up call. This industry that's going through very signifi consolidation."

JT. The Clinton Adtration's health-care ul, if enacted next

likely will power a new wave of ers and closures. But the drive to e the nation's glut of hospital beds eed out inefficient players is alwell underway. Cost-conscious s are pushing hospitals and docross the country into cost-cutting es, from outright mergers to inl collaborations aimed at sharing ive technology and even mundane es, such as laundry facilities. e D. Pillari, president of research CIA Inc. in Baltimore, estimates

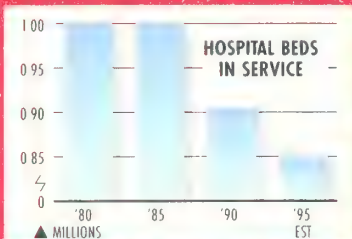
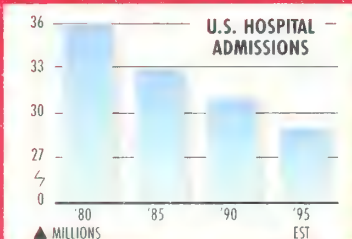
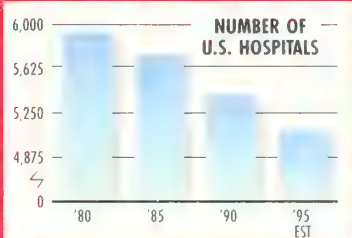
that the number of community hospitals has dropped by more than 9% since 1980 (chart). But with declining admissions and shorter hospital stays—thanks partly to technology—the median occupancy rate has held steady at 49% since 1987. "You could probably close one-third of all hospitals nationwide and no one would know they were gone," says Dudley E. Morris, managing partner of the

Still, some argue the merger may lead to higher costs as HealthSpan steps up spending on new technology.

For now, though, such warnings seem to pale in the face of the nation's desire to cut medical costs, which have been rising by more than 11% annually and showed a hefty 0.8% increase in May. Many are convinced that hospital restructuring must be part of the solution, since hospitals account for more than 38% of health-care expenditures. The White House task force on health-care reform is even considering lifting certain antitrust restrictions to smooth mergers and collaboration, in response to industry complaints that federal regulators are chilling such deals with murky guidelines and sluggish reviews.

Not that the medical world of the fu-

RADICAL SURGERY: **HOSPITALS DOWNSIZE**



Chicago office of consultants APM Inc.

It may well happen. Some critics fear a big shake-out that would limit consumer choice and raise costs as hospital groups wield more power. Minnesota sued to prevent the merger last October of two of Minneapolis' largest hospital groups to create HealthSpan Inc. The state settled when the company, with 27% of the metropolitan hospital market, agreed to roll back patient charges to 1991 levels, plus inflation, and to cut patient billings by \$12 million in 1994.

ture will be dominated by national powerhouses on the scale of the Columbia-Galen marriage. In its scope, most likely, the merger is something of an aberration. Instead, most health-care experts expect a rise in the number of local or regional networks of hospitals and doctors. In the 1980s, such giants as Hospital Corp. of America, American Medical, and Humana stumbled for a variety of reasons as they tried to create national hospital conglomerates. But health-care purchasing remains a distinctly local de-

cision. "We haven't yet seen a hospital provider that's both regional and national in scope that consistently has the best track record in every local community," says Chip Sharkey, senior vice-president of national marketing for Cigna Employee Benefits Cos.

Take American Medical. After painful downsizing and a change of management, the 35-hospital chain is back on the acquisition trail primarily in the 14 states where its business is now concentrated, says CEO O'Leary. Nine months ago, its hospital in Tarzana, Calif., merged with a HealthTrust Inc. hospital only two miles away in Encino. American Medical subsequently scotched plans to build a \$1.1 million catheterization lab at its Tarzana hospital because Encino already had a high-quality facility. For the first five months of the year, costs at Tarzana are down 10.2% per admission from the same period in 1992.

BIG GAINS. A combined Columbia-Galen, to be called Columbia Healthcare Corp., aims to have the best of both worlds—strong networks of health services in local markets and national clout. With Galen, Columbia gets an entrée into new metropolitan markets. It can boost efficiency in the four markets where the networks overlap, and the combined company could save \$30 million annually in administrative costs.

But to reap bigger rewards, Columbia must acquire other hospitals in the same cities, so that it can cut excess capacity and increase volume to cover fixed costs. Moreover, the company typically attempts to dominate local markets by developing or acquiring a broad range of health-care services, such as outpatient diagnostic centers and home care.

It has aggressively pursued that approach in Miami, where it started in 1988 with the purchase of nearly bankrupt Victoria Hospital. By the end of 1989, Victoria was in the black and boasted a new urgent-care center, in-house dialysis, and lithotripter for breaking up kidney stones. But early this year, to the dismay of some of its doctors, Columbia consolidated Victoria with nearby Cedars Medical Center. "Columbia is taking marginally performing hospitals and making them viable," says Fred Fetter, Cedars' chief financial officer.

Certainly, the strategy has worked for investors. Rainwater, for one, has turned a \$125,000 investment in Columbia into a stake worth \$89 million. Indeed, a tidy profit may be a good argument for hospital consolidation. The question: Will doctors, patients, and those who pay the bills do as well?

By Wendy Zellner in Dallas, with Mike McNamee in Washington, David Greising in Chicago and bureau reports

RESTRUCTURINGS

WHY KODAK'S DAZZLING SPIN-OFF DIDN'T BEDAZZLE

Divorcing the \$3.9 billion chemical arm won't alleviate many problems

Only on Wall Street could the birth of a company worth \$3.5 billion be greeted with such unbridled indifference. On June 15, Eastman Kodak Co. announced that it would spin off its giant chemical arm to shareholders, creating an entity with 18,500 employees and sales of \$3.9 billion. Investors merely yawned: Kodak shares, which had risen in anticipation of a major event, fell 1%, to 52¢ that day, partly on the realization that the spin-off

will come with the September plan. needs to address two crucial issues: cost cutting and long-term strategy. In January, Whitmore conceded that photography was a mature market. Come September, he's likely to shrink the company to fit the diminished expectations. That could result in more layoffs, research cuts, and other restructuring moves. The big question, analysts say, is just how deeply Whitmore will cut. "Spinning out chemicals is easy. Cutting

10,000 people is a lot harder," says B. Alex Henderson, analyst at Prudential Securities Inc.

SUBTLE IMPACT. Just as important, Whitmore needs to refine Kodak's fuzzy strategy. Insiders say its Sterling Winthrop Inc. unit is unlikely to be sold immediately, since it has several promising medicines that are three to five years away from the market. As for the ailing information group, which makes copiers, Whitmore says it's in the midst of a turnaround. But one former insider believes Kodak may decide to form a joint venture with a bigger rival.

Whitmore concedes that Eastman Chemical Co. spin-off will have only a subtle financial impact on Kodak. When spun off at yearend, the operation will take with it about \$2 billion of Kodak's \$3 billion in debt—but also a fifth of its sales. Still, Whitmore, argues, the move will allow both companies to focus better on their core businesses.

Some investors seem content with the rationale, for now. Even as Whitmore was announcing the big Eastman spin-off, though, others were focusing on another bit of news released the same day: Sales for Kodak's film products were down sharply in May, partly because cheaper private-label film continues to grab U.S. market share. That really sends a more potent message than even a \$3.5 billion spin-off: Kodak urgently needs to fix its core business. In the months, investors can decide if Fred Whitmore has figured out how.

By Mark Maremont in New York



WHITMORE: A RESTRUCTURING PLAN IS DUE IN SEPTEMBER

would neither cut Kodak's debt ratio nor enhance earnings. "I view it as a small step," says Eugene G. Glazer, analyst at Dean Witter Reynolds. "It doesn't do much for shareholder value."

So why did Kodak bother? One possible motive: to ease the intense pressure on Chairman Kay R. Whitmore. Under fire from investors and his own board for Kodak's lackluster performance, Whitmore has promised to deliver a comprehensive restructuring plan by September. But the long wait has left investors edgy, and the resignation of Chief Financial Officer Christopher J. Steffen in late April did little to promote confidence. "This was designed to relieve the pressure," says a source close to Kodak. "It's more of a PR response, a demonstration that they're willing to manage the company differently."

The real test of Whitmore's mettle



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**HEWLETT
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Can tiny
New York-based
Andrea crack
this potentially
huge market?

ANDREA MAY BE TRADING ON SOUND AND FURY ALONE

The company's stock is hot, but what about its pay-phone noise-buster?

Until recently, it was an unknown company operating in an unsuspecting corner of Long Island City, N.Y. It claimed to have a new, esoteric technology but wouldn't reveal the names of any customers. Not much to go on. But in the past six weeks, that has been enough to make Andrea Electronics Corp. the hottest, most volatile issue on the American Stock Exchange.

Last November, at a trade show of companies that operate pay phones, Andrea unveiled its Active Noise Cancellation kit, a device for reducing background noise during telephone calls. In the months since, speculation sent the company's shares from 4 to near 50 (chart). Even a 5-for-1 stock split—ordered in late May by Amex in an attempt to improve liquidity—and a rare Amex ban on margin trading have done little to blunt dramatic ups and downs in the tiny company's stock.

'TULIP MANIA'? Baffled by the stock's flamboyant performance, the Securities & Exchange Commission has launched an "informal inquiry" into Andrea, which hasn't turned a profit since 1989. The company's June 10 announcement of the probe sent Andrea shares down 40% over two days, to 30. Sure enough, though, they had bounced back to 46½ by June 16. The SEC has declined to comment on its investigation.

What gives at Andrea? No one at the

struggling defense electronics contractor—not Chief Executive Frank A.D. Andrea Jr., 66, nor his two sons, copresidents John, 35, and Douglas, 30—will say a word. Others are less reserved: "Either this is a gold mine or it's tulip mania," says Frederick R. Kobrick, portfolio manager of State Street Research Capital Fund in Boston. "And so far, it smells like tulips to me."

Whatever it is, Andrea's stock mayhem reflects the explosive attraction of the technology the company is promising. Electronics makers such as Noise Cancellation Technology Inc. in Stamford, Conn., and Active Noise & Vibration Technologies Inc. in Phoenix are pushing to develop commercial and indus-

trial products that reduce the effects of ambient noise and vibration, which wear down equipment and can cause hearing loss.

Andrea claims its gizmo advances existing technology by precisely sorting desired sound waves from those corrupting the telephone signal. The technology may work—but so don't believe that tiny Andrea will be the one to crack the potentially huge market.

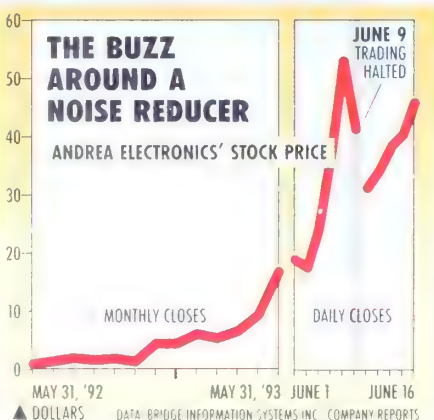
Last year, the company lost \$690,000 on sales of \$3.3 million, selling mainly in communications equipment to military and commercial aviation companies. "Maybe they've found a clever scheme or something," muses Bill Schweber, marketing engineer for Analog Devices Inc., a Norwood (Mass.) maker of digital signal-processing chips used by Noise Cancellation Technology. "That's possible. It's also possible to fly."

NO REAL PROOF. Over the past five years, Frank Andrea, Jr., an electrical engineer, has been pushing to diversify the business founded by his father in 1934 as a maker of commercial radios and later televisions. With the help of his two sons—John, a former investment banker, and Douglas, an industrial designer—Andrea has intensified the company's efforts to enter the so-called digital signal-processing market.

Whether Andrea's technology is enough of a breakthrough to justify a huge runup in its stock price is doubtful, however. The same day the company revealed the SEC's inquiry, it announced a sale of the technology to an unnamed telecommunications customer. But in the end, says Jeffrey Hallett, portfolio manager of the Pacific Horizon Aggressive Growth Fund in San Diego, Calif., "There is no real concrete measure of the company's product or potential revenues."

For now, Wall Street's expectations remain high. Soon, however, pay-phone execs will be clamoring for real-world proof—a demonstration, say, at Grand Central Terminal during rush hour. Tom Mac McCrossen, vice-president for operations of Amtel Communications Inc., the nation's seventh-largest vendor of pay phones. He says he could see installing the noise-busters on about a quarter of the company's 4,000 phones. But he adds: "Anybody can set up a demo at a trade show. Before I order, I want to physically verify that it works in the field." There's no word on when that might happen, or whether Andrea's reality has anything to do with investor dreams.

By Ron Stodghill II in New York





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A COMPULSIVE BUYER —OR A MASTER BUILDER?

Phil Frost adds Johnson Products to Ivax' diverse stable of companies

Veterinary products, industrial chemicals, pharmaceuticals for everything from hypertension to Alzheimer's disease, and now, Johnson Products Co. Will the combination produce the "world class health-care products company" that Ivax Corp.'s chairman promises?

Since 1987, dermatologist Dr. Philip Frost has cobbled together more than 15 acquisitions, boosting sales of his Miami-based Ivax by 250%, to \$451 million. The latest addition: Johnson Products, a maker of personal-care products for African Americans, which Ivax said on June 14 it would buy in a stock deal valued at up to \$73 million. Shares of Johnson Products surged 5%, to \$24%, on the announcement.

It's not clear whether the rapidity and diversity of acquisitions reflects Frost's love of the deal or a more coherent strategy. As recently as June 7, Ivax put up \$58 million to acquire an Elf Aquitaine chemical subsidiary. The Johnson acquisition prompted one former short seller to chide: "Phil's a deal-a-week man."

Certainly, though, the dealmaking has brought results: Ivax' net income last year reached \$44.6 million, up from a 1988 loss of \$3 million. And Frost says the strategy is clear enough: Build the core pharmaceutical business by selling generic pharmaceuticals, making hard-to-copy generics from products coming off patent, and developing proprietary products. Meanwhile, his aim is to turn the four ancillary businesses—medical diagnostics, skin care and cosmetics, chemicals, and veterinary products—into at least \$100 million-a-year units.

NATURAL TIE-INS. Originally, Ivax acquired those businesses as cash generators and financial chess pieces that could be sold or spun off if the pharmaceutical company needed capital. "I like to have a lot of options," Frost says of the diversification. Now, he says the core unit is generating enough cash to sustain its growth and investment needs—thanks mostly to the success of the first generic version of the hypertension drug verapamil SR.

That means more capital for acquisitions of companies such as Johnson Products. Since 1990, Johnson has rebounded from years of profit stagnation with cost-cutting and aggressive market-

ing. Sales have grown at a 12.6% compound annual rate since 1989. Pretax earnings before extraordinary items totaled \$5.7 million last year, from a \$2.5 million loss in 1988. But extending its growth with aggressive marketing takes cash. "It's difficult, to say the least, as a \$42 million company to make big investments on a global basis," says Johnson's Chief Financial Officer Thomas P. Polke.

Ivax, for its part, sees natural tie-ins between Johnson and its Flori-Roberts

traded at 29 times earnings of the previous 12 months; Johnson's price-earnings ratio after the announced bid was 12.4. The result, he says, is a conglomerate with an artificially inflated stock price. And with other drugmakers beginning to develop their own generic versions of verapamil SR, and other proprietary products years away from possible approval, the outlook doesn't support a market capitalization of \$1.7 billion.

SHREWD BUSINESSMAN. Frost deflects such criticism in his typical soft-spoken style. He contends that there's plenty of room for Ivax' drug-development pipeline. He notes, moreover, that many big pharmaceutical companies have profitable ancillary businesses. "None of them for the purpose of building the stock price," he says. "We're busy building the company."

Frost has done it before. The do-



A HUNGER FOR DEALS

DECEMBER, 1987 Ivax is formed by three companies acquired by Chairman Phillip Frost, a Florida dermatologist

DECEMBER, 1990 Acquires Harbison Pharmaceuticals, a British maker of generic drugs, for \$73 million

DECEMBER, 1991 Buys Goldline, a generic-drug distributor, for \$46.2 million

JULY, 1992 Pays \$20 million for Flori-Roberts, No. 1 company in cosmetics for black women

SEPTEMBER, 1992 Pays \$21 million for LuChem Pharmaceuticals

NOVEMBER, 1992 Acquires Medeva's Kerfoot generic-drug division for \$36.8 million

JUNE, 1993 Announces deal to buy Johnson Products for \$73 million in stock

DATA: COMPANY REPORTS

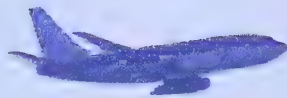
Inc. unit, a maker of cosmetics for black women. Johnson, moreover, has unused manufacturing capacity, and Frost sees Johnson and Flori as additional outlets for products developed by Ivax' research teams. "The acquisition of Johnson Products will allow Ivax to dominate a niche business," says PaineWebber Group Inc. analyst Ronald Nordmann, who applauds the Johnson deal.

Others see more than synergy at work. The Johnson acquisition, says a former short seller, represents Ivax' ability to "buy" earnings by trading its highly valued shares for stock with lower multiples. On June 14, Ivax shares

rescued Miami-based Key Pharmaceuticals from near-bankruptcy and sold Schering-Plough Corp. for \$836 million in 1986. That deal made him \$150 million richer and burnished his reputation as a shrewd businessman. "He sees value where others don't even look," says a health-care-industry consultant J. Wilkerson.

Although some investors may be waiting for another Key in Ivax, Frost says the companies are very different. This time, he says, the stakes are much bigger.

By Gail DeGeorge in Miami, with John E. Ellis in Chicago



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CASEY BEFORE HIS SURGERY: HOSPITAL OFFICIALS DENY HE RECEIVED PREFERENTIAL TREATMENT

GOVERNOR CASEY'S TIMELY TRANSPLANT

His case may reinforce notions that lifesaving organs go to the powerful

The news at Pittsburgh's Presbyterian University Hospital was almost too good to be true. On June 13, within hours of announcing that Pennsylvania Governor Robert P. Casey would require a risky heart-and-liver transplant, doctors located donor organs of the right tissue, blood type, and size for the governor.

The downside: Doctors knew that if they operated on Casey, they risked charges that the rich and powerful get organs right away, while poorer patients die waiting. "We were concerned about people's perception that this smacks of favoritism or conspiracy," says Dr. John Fung, one of Casey's surgeons.

PRIORITY LIST. But doctors overcame these concerns and tended to the patient. The 61-year-old Casey, suffering from a liver disease called amyloidosis, had reported to the University of Pittsburgh's renowned Transplantation Institute for tests on June 12. A day later, doctors announced that proteins produced by Casey's liver had nearly destroyed his heart. Within hours, Casey was on the operating table, and Pittsburgh's medical team, headed by transplant pioneer Dr. Thomas E. Starzl, was sewing the heart and liver of a 34-year-old murder victim into the governor. The next day, the two-term governor was awake, and doctors were giving him a 90% chance to survive a year.

Then the questions began. "People have asked, 'Was this fair?'" says Wanda Bond, spokeswoman for the United Network for Organ Sharing, a transplant watchdog group in Richmond, Va. Indeed, why did Casey get organs so quickly, when the average wait for a heart is one year?

The answers: The governor's heart could have given way any day, the hospital said. Further, Casey needed two organs, not just one, placing him on a priority list. "We don't give preferential treatment to anyone," says Jeffrey Romoff, president of the University of Pittsburgh Medical Center.

The issue of fairness is a crucial one in the burgeoning transplant industry. Each day in the U.S., an average of six people die while waiting for a new heart or liver, while more than 100 possible donors die without volunteering to make their organs available to others. The gap between supply and demand is largely a result of mistrust, transplant specialists say. Even though federal law prohibits the sale of organs, many potential donors fear that the system benefits rich patients and jet-setting surgeons. Says Laurence C. Swasey, community-education liaison at the New York Regional Transplant Program: "I have to fight this myth all the time, that only the wealthy get organs."

High-profile cases such as Casey's,

WAITING FOR A NEW LIFE

WHO More than 32,000 people await organ transplants. At least 6,000 need new hearts and livers.

THE ODDS One-fifth to one-third of the waiting list dies each year, even though some 50,000 qualified donors die annually. About 50% of those on waiting lists get transplant.

THE COST The average heart transplant costs about \$148,000. A liver transplant runs \$235,000 on average. Most insurance companies cover the procedures.

DATA: BUSINESS WEEK

while highlighting the technology, complicate the sales job. Nonetheless, modern technology and new drugs to keep the body from rejecting organs have made transplant surgery far more commonplace. Some 16,000 major organ transplants were performed last year.

Insurance companies buy into the procedure; even at an average cost of \$148,000, a heart transplant costs less than several years of treatment with medication. Casey's transplant bill, estimated at \$250,000, will be paid by the same Blue Cross coverage held by 80,000 other state employees.

BIDDING WARS. As the \$550 million industry grows, hospitals throughout the country are wooing hundreds of organs from transplant meccas such as Houston and Pittsburgh with million-dollar contracts.

But none of the specialists can do much without a steady supply of organs. Often, they come from down-in-the-hill towns, such as Monessen, Pa., a town with a shuttered steel mill and a booming drug trade. It was there on July 1 that William Michael Lucas, an unemployed 34-year-old, received a fatal diagnosis. A week later, his respirator was turned off in time for his heart and liver to go to Governor Casey. Speaking to the press after the operation, Lucas' mother, Frances, said it made her feel "good" that her son's organs were given life to someone. But such charity won't sustain the growing demand for transplant organs. For this, the public must be convinced that the price-tagged merchandise flows both ways—the governor's organs could give life to an unemployed man in Monessen.

By Keith L. Alexander and Steve Baker in Pittsburgh

INTEL TECHNOLOGY BRIEFING



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Using new superscalar technology, our processors are now capable of executing two instructions per clock cycle.



WORKS IN PRINCIPLE AND IN PRACTICE.

Employing the techniques above, we've created the new Pentium processor. A processor that is over 300 times faster than the first PC microprocessor.

THE PENTIUM PROCESSOR. A MODEL OF EFFICIENCY.

The Pentium processor can be described as a super-efficient factory. Its main assembly line is its superscalar technology—which enables information to be processed simultaneously through dual pipelines. To accomplish this, the pipelines divide up an instruction, then send it through five stages. As it passes from one stage to the next, the pipeline is free to begin another instruction. Speeding up operations substantially.

PUMPING DATA THROUGH.

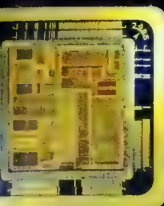
The rest of the features of the processor are designed to keep that main assembly line working at peak capacity (*see diagrams*). These features, along with the superscalar technology, help the Pentium processor to crunch more than 100 MIPS at a clock speed of 60 MHz.

HOW FAST DID YOU SAY?

Twice the performance of our own Intel486™ DX2-66 MHz processor. Plus the redesigned floating-point unit on the Pentium processor offers up to five times the performance of the Intel486 DX2-66 CPU for math-intensive applications.



THE NEW PENTIUM PROCESSOR
IS FULLY SOFTWARE COMPATIBLE WITH OUR X86 FAMILY.



THE LINE WIDTH OF EACH TRANSISTOR IS 1/100TH THE THICKNESS OF A HUMAN HAIR. OR 0.8 MICRONS TO BE EXACT. SO WE CAN PACK 3.1 MILLION TRANSISTORS INTO AN AREA THIS SIZE.

PENTIUMTM PROCESSORS

PHOTOGRAPHIC MEMORY RIGHT ON BOARD.

THERE ARE SEPARATE CODE AND DATA WRITE-BACK CACHES THAT REDUCE CACHE CONFLICTS AND INCREASE SYSTEM PERFORMANCE. WITH AN ON-CHIP CACHE, WE KEEP ESSENTIAL INFORMATION WITHIN AN ARM'S REACH OF THE MAIN MEMORY LINE. SO THAT INSTRUCTIONS AND DATA CAN BE FETCHED WITHOUT WAITING ANY TIME. AND A 95% OF THE TIME, THE INFORMATION IS AT HAND.

THINK OF IT AS A 64-LANE FREEWAY INSIDE YOUR CPU.

TO GET DATA REALLY MOVING, WE DOUBLED THE SIZE OF THE BUS ON THE FIRST PENTIUM PROCESSOR. THIS ALLOWS TWICE AS MUCH INFORMATION TO BE FETCHED AT ONCE. THERE IS EVEN A BURST MODE FOR HIGH-SPEED INFORMATION TRANSFER—SO MORE INFORMATION GETS TO WHERE IT'S GOING QUICKER. PLUS, AUTOMATIC DATA INTEGRITY CHECKING TO BE SURE THE RIGHT DATA IS BEING MOVED.

WE PROGRAMMED THE CHIP TO BE CLAIRVOYANT.

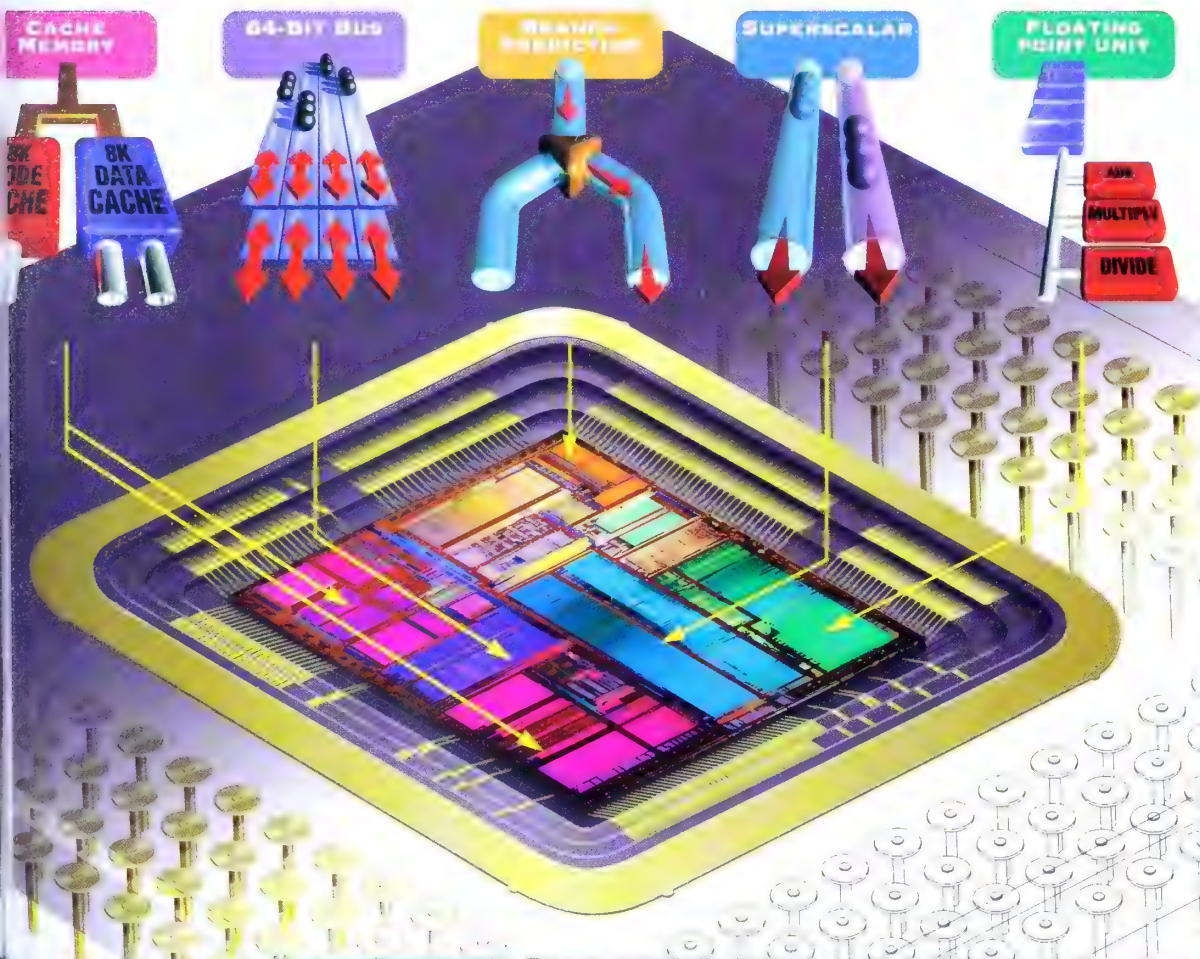
WE'VE GIVEN THE PENTIUM PROCESSOR AN INTELLIGENCE OF ITS OWN—A SMALL CACHE KNOWN AS THE BRANCH TARGET BUFFER, WHICH PREDICTS WHICH WAY AN EXECUTION WILL BRANCH. WHEN THE PREDICTION IS CORRECT (AND IT IS OVER 90% OF THE TIME), THE BRANCH IS EXECUTED WITHOUT DELAY—ENHANCING PERFORMANCE.

WHO SAID YOU CAN'T DO TWO THINGS AT ONCE?

THE FIRST PENTIUM PROCESSOR HAS TWO SIDE-BY-SIDE PIPELINES FOR INTEGER INSTRUCTIONS. THIS ENABLES THE PROCESSOR TO EXECUTE TWO INSTRUCTIONS AT ONCE. AFTER GRABBING AND PARTIALLY DECODING AN INSTRUCTION, THE PENTIUM PROCESSOR DETERMINES IF THE INSTRUCTION CAN BE EXECUTED IN PARALLEL WITH THE NEXT INSTRUCTION IN LINE. IF IT DOESN'T DETECT ANY DEPENDENCIES, THE TWO INSTRUCTIONS ARE SENT ALONG THE PARALLEL PIPES FOR EXECUTION.

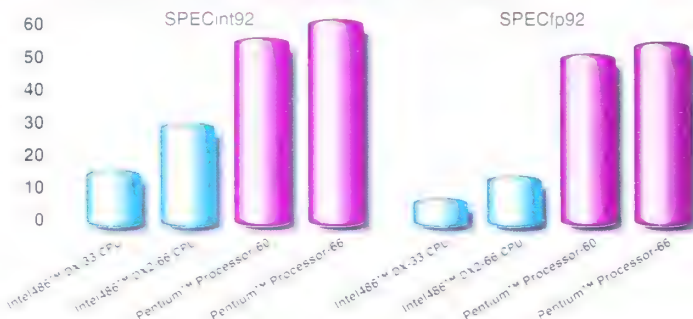
A BIG POINT OF DIFFERENCE IN MATH-INTENSIVE FUNCTIONS.

WE'VE ADDED SPECIALIZED PIECES OF HARDWARE TO SPEED UP THE THREE MOST COMMON FLOATING-POINT INSTRUCTIONS—A MULTIPLIER, A DIVIDER AND AN ADDER. WITH THESE FEATURES, MOST FLOATING-POINT INSTRUCTIONS CAN BE EXECUTED IN A SINGLE CLOCK CYCLE. GIVING YOU UP TO FIVE TIMES THE FLOATING-POINT PERFORMANCE OF INTEL486 DX2-66 CPU-BASED COMPUTERS.

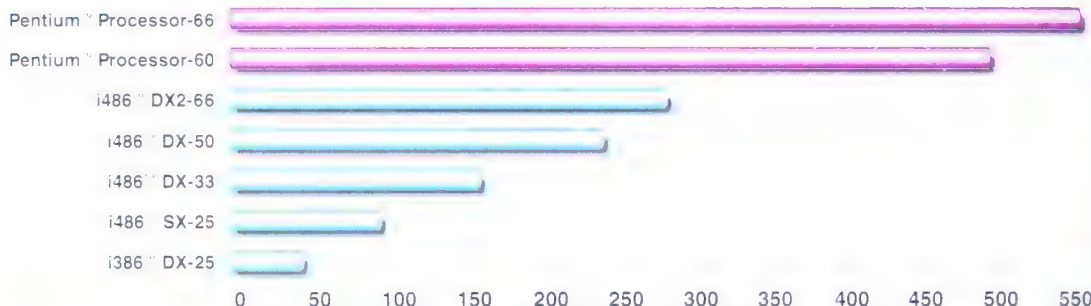


BASED ON SPEC 92, THE INDUSTRY STANDARD WORKSTATION BENCHMARK, THE PENTIUM PROCESSOR IS IN THE SAME PERFORMANCE CLASS AS THE BEST WORKSTATION. BUT THE PENTIUM PROCESSOR IS RUNNING AT ONLY HALF THE CLOCK FREQUENCY, AND SYSTEMS BASED ON THE PENTIUM PROCESSOR COST ONLY ONE-HALF AS MUCH.

THE PENTIUM PROCESSOR PROVIDES WORKSTATION CLASS PERFORMANCE



THE INTEL iCOMP RATING INDEX*



WHAT DOES THIS TECHNOLOGY REALLY MEAN?

It means Pentium processor-based PCs are now as fast as workstations. It means faster Intel486 microprocessors, because our experience with Pentium processor technology allows us to improve them. It means new software horizons being brought to more and more users—such as

3-D design, multimedia, handwriting and voice recognition, virtual reality and more.

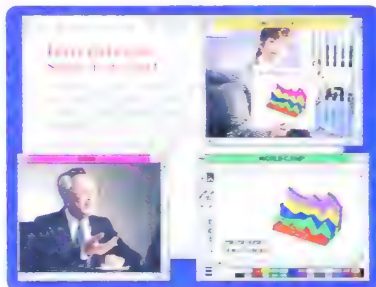
WHAT DO YOU NEED?

As you are reading, we are ramping up Pentium processor production. The question is, when will you need a system

based on one? If you're running power-hungry applications, the sooner the better. But for all but the most demanding users, the answer is still an Intel486 CPU-based system. Especially since many Intel486 DX2 processor systems can be upgraded to the same technology found in the Pentium processor with a future Intel OverDrive™ processor.

TECHNOLOGY YOU TRUST.

For over 20 years, Intel has led microprocessor design, development and manufacturing. So with Intel technology inside, you can be assured that you'll always have unprecedented power and unquestioned compatibility.



BESIDES RUNNING EVERYDAY APPLICATIONS BETTER, THE PENTIUM PROCESSOR PROVIDES THE POWER NECESSARY FOR NEW MULTIMEDIA APPLICATIONS LIKE DESKTOP VIDEO CONFERENCING.

FOR A FREE PENTIUM PROCESSOR POSTER, CALL 1-800-955-5599.

Want more on our latest technology? Then call to receive additional information on Pentium processors and other Intel products that are making PCs better. Ask for literature package #67. The information is free. So is the call.

intel

BY JULIE TILSNER

T. REX ON THE BRAIN

What seemed like 65 million years of advance hoopla, Six Park opened June 11 promptly produced about 1 million in sales at 2,404 stores. Here's how many copies in 179 newspapers and magazines mentioned the Spielberg movie—with real-world context:

	ARTICLES
ROYAL TAX	533
S PEROT	530
I GUINIER	524
BIA	488
CLASSIC PARK	438
ALIA	363
SAHO OWADA	176
A TURNER	137
GOLDEN VENTURE	122



JOHN AKERS, JR.

Frank Lorenzo has risen from the ashes, and he's got some company. Eastern Air notified the Transportation Dept. that former chairman John Akers, Jr., scarcely has had time to get out his office at Big Rock. He is joining Lorenzo's airline as a director and investor. The would-be CEO is battling attacks from bitter airline union leaders who want to prevent the new airline from getting off the ground. Lorenzo, who failed to save troubled Eastern Air, is undergoing public scrutiny to determine whether he is fit to run an airline. The airline plans to fly jets from Boston, Washington, Atlanta, and possibly Philadelphia. At one point, he planned to call it Ship Airlines, but he

has since dropped the name. How about... Phoenix Air, as in rising from the ashes?

HIGH-TECH STARTUPS IN SHANGHAI?

► High technology in China is getting an all-American jump start. Boston-based computer trade-magazine publisher Patrick McGovern said on June 16 that he is setting up a \$20 million international venture-capital fund aimed at fueling high-tech startups in Shanghai.

And McGovern has the city's blessing. His Pacific Technology Venture Fund will partner with the Shanghai-controlled Science & Technology Venture Fund. Each company will contribute \$10 million of seed money. They say they expect to fund 30 to 40 high-tech startups in Shanghai, China's commercial center. At least 20 entrepreneurs have already expressed interest.

THE NUMBERS DON'T FLY AT USAIR

► USAir said that "sluggish economic conditions" in April and May led the airline to revise earlier forecasts of a second-quarter profit and instead to predict a loss. The airline's chairman, Seth E. Schofield, also said that he did not expect the carrier to

JUST DON'T STEAL THE GAS PEDAL

"No radio, no valuables," say the signs in cars parked on city streets. Maybe the owners' worries are misplaced. These days, safety airbags are the hot ticket item for car thieves and "chop shop" operators. No one keeps statistics on the number of airbag thefts, but insurance executives say there has been a sharp increase in such claims. "Thieves are taking the whole steering column out of the car and reselling it on the illegal parts market," says John Maes, a spokesman for the National Insurance Crime Bureau, an industry group.

Why? An airbag may save your life, but the bill to reinstall it—\$350 to \$2,500—may kill you. A "hot" airbag runs half of that. Exploded bags are big sellers, too: Some repair shops switch them with undeployed bags in collision-damaged cars, bill insurers for a new bag, then reinstall the original bag into the car. Nice gig, this safety business.



earn money in 1993. In a June 21 article, BUSINESS WEEK erred in saying that Schofield expected the airline to be profitable this year. Current forecasts are "subject to change," based on economic, market, and political factors, the company says.

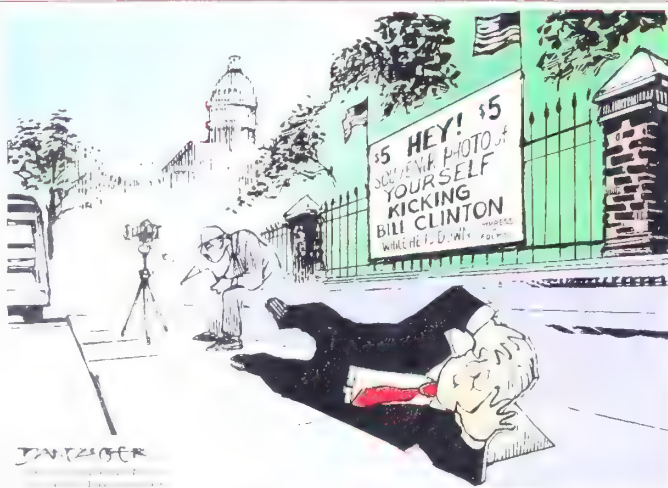
THE HYPING OF THE REAL ANITA HILL

► Nothing like a good public dare to catapult a book onto the best-seller list. That's what happened when Erwin Glikes, president of MacMillan Publishing's Free Press division decided to dare the

public to read conservative brat-packer David Brock's first book, *The Real Anita Hill*. Glikes' strategy: Run taunting, nationwide full-page newspaper ads and radio spots that tell readers to decide for themselves whether the book is trash or a solid analysis. Now, discussions among the intelligentsia are raging anew—and sales are soaring. The book is into its sixth printing and holds the No. 3 spot on *The New York Times* best-seller list.

JABBING PEPSI

► Leave it to Wall Street to find a possible gain in someone else's pain. While PepsiCo grapples with far-flung reports of needles and syringes being found in Pepsi cans, analysts see a buy. "Ultimately, it could be a hoax. But it's an easy way to make money in the short term on the stock," says Roy Burry, beverage analyst at Kidder Peabody. Since June 14, the stock has dropped \$1, closing at 35% on June 16. For its part, the company says that it's "virtually impossible for any tampering to have occurred at our bottling plants."



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Notebooks so graceful, their sleek design and slim profile almost defy their sheer might. Rocket-fast IBM 486SLC2 50/25 MHz processors speed things along, so you work in a virtually wait-less state.

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Warranty	3 Years (International)	3 Years (International)

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THE GOP IS FLUFFING THE CUSHIONS FOR RON AND GEORGE

h, for the sweet life of an ex-President. Unless you happen to be Jimmy Carter and have an urge to take up carpentry, there are perks galore. Take George and Ronald Reagan. Each is a millionaire and draws an annual pension of \$148,000. They get office staff at taxpayer expense. And they can rake in big bucks on the rubber-chick circuit. Yet, *BUSINESS WEEK* has learned the Republican National Committee is providing the duo with a little extra on: \$150,000 a year in supplemental expense money. Federal Election Commission records show that since Reagan's 1989 retirement, the RNC has paid \$12,500 a month to maintenance of his Los Angeles office. Bush's Houston headquarters got a \$50,000 stipend covering his first four years back in private life. Reagan's money goes to an entity called "34th Floor Services." Bush's check is made out to a company called "M. R. B. Co."

Chair Haley Barbour says the fees cover postage, telephone calls, and other fund-raising expenses. This year, the RNC will give Bush \$463,000 and Reagan \$633,000 for rent, staff, and travel. Since public money cannot be used for political purposes, "We help with the expenses that would otherwise be borne by us," Barbour explains.

PROFILE. Fair enough. But there's been little political activity of late by either Bush or Reagan. RNC officials say the role of the Gipper's role this year has been lending his name to new donor letters. Bush, who has found lots of time for a sentimental journey to Kuwait, hasn't even done much. Neither man showed up for a big May fund-raiser called the "Presidents' Dinner." Reagan aide Cathy Goldberg says her boss raised tons of cash for the GOP in 1990 and 1992 plans to make more appearances later this year. Bush's office declined to comment.

Former GOP chief Frank J. Fahrenkopf Jr. says Reagan floated the idea of subsidies after the '88 election. "Reagan was the biggest fund-raiser we ever had," he says. "We wanted to make sure the party could continue to rely on it as it was a great investment."

1 Bush, who requested the same deal, do as much? Not

likely. The former President wants to keep a low profile. What's more, Bush lacks Reagan's star appeal, and conservatives still haven't forgiven him for booting the election.

There's nothing illegal about the RNC's check writing, of course. Still, some say the practice could be misconstrued as a slush fund. "On the surface, the money should not be paid," says former Reagan deputy Lyn Nofziger. "It ain't Watergate II, but it reminds me that Richard Nixon, who refuses any money for his speeches, is the best ex-President Republicans have ever had."

By Owen Ullmann, with Lee Walczak

PUSH OVER, ROSS. PAUL WANTS THE PODIUM, TOO

Ross Perot gets all the attention, but former Presidential contender Paul Tsongas is working to make his Concord Coalition an independent force in American politics, too. The bipartisan group, which Tsongas set up last fall with former Senator Warren Rudman (R-N.H.) and investment banker Peter G. Peterson, is "trying to carve out a different niche from Perot" while sharing his emphasis on the budget deficit, Tsongas says.

The group plans to give candidates in next year's congressional elections "fiscal responsibility" ratings modeled on the environmental ratings that are compiled by the League of Conservation Voters. And it will send "truth squads" to New Hampshire to dog early candidates stumping for the 1996 Presidential nomination. For example, Tsongas says, talk of sweeping budget cuts by Republican Senator Phil Gramm would be met by public questions about the Texan's support for the Superconducting Super Collider and other projects in his home state.

But Tsongas knows his low-key Concord group will never match Perot's flair for commanding the media. "If we ever sat around trying to figure out how to compete with Ross Perot," he smiles, "We'd go nuts."

FINAL WRAPUP

SCIENCE

1993 was the year that opponents believed they were finally going to win the Superconducting Super Collider. After all, its most powerful backer, Lloyd M. Bentsen (D-Tex.), has left the Senate for the Treasury Dept. But \$8 billion particle accelerator is proving tough to kill. A House Appropriations subcommittee has already approved \$620 million in funding for fiscal 1994, and the project may well survive a close vote in the full House in June. The margin of victory could come from some of the 110 House members. SSC backers have lobbied hard, arguing that the collider

is vital to U.S. competitiveness. The issue may come down to just how hard President Clinton, who is reviewing both the SSC and the space station, is willing to fight for them.

AVIATION

While the Administration continues to study ways to help ailing U.S. airlines and aircraft makers, Transportation Secretary Federico F. Peña is boosting sales of planes abroad. He lobbied for continuation of most-favored-nation trade status for China to help Boeing Co. sell aircraft. Now, he may travel to Saudi Arabia to persuade officials there to place new orders for U.S. planes.

GOOD GROOMING

Subsidized haircuts are nothing new in Washington—Congress gets them, and everyone knows about Bill Clinton's Hair Force One adventure. Now the House has voted to spread the benefits. Representative Maxine Waters (D-Calif.) got an amendment attached to a supplemental appropriations bill providing participants in training and vocational-education programs with \$100 per week for "transportation, meals, and other personal needs"—including grooming. The money—\$80 million—would go to the hard-core unemployed aged 17 to 30 for as long as they remain in a program.

MEXICO

**NO BED OF ROSES:
MEXICO'S ARMY
OF UNEMPLOYED
DO NOT GET
INSURANCE**



WORRISOME SIGNS IN MEXICO'S ECONOMY

- ▶ Stock market drops 15% this year because of sluggish corporate earnings
- ▶ Auto sales dipped nearly 3% in April, the first decline in six years
- ▶ Banks slash available credit by two-thirds as sour loans hit 8% of total loans
- ▶ Interest charges on business and consumer borrowing are 28%, 18 points above the inflation rate
- ▶ Current-account deficit likely to reach \$23 billion this year
- ▶ Unemployment is rising, with manufacturing jobs down 5.6% from last year

BY MICHAEL W. BAKER

'THE MOMENT OF TRUTH' FOR MEXICO

With NAFTA in limbo, the country's gains could start to unravel

Americans may be anxious over the impending North American Free Trade Agreement, but the suspense is killing the Mexicans. Economic growth has stalled, job losses are mounting, and a credit crunch is pinching consumers and business. Just look at autos: In April, car sales dropped for the first time since 1987. Auto makers are grimly predicting that sales may fall as much as 10% this year, a far cry from the 23% average growth over the past six years. Says Fausto Cuevas, director of the Mexican Automotive Industry Assn.: "This is going to be a very difficult year."

And the longer it takes to resolve

NAFTA, the longer President Carlos Salinas de Gortari has to stick to his punishing economic course. The payoff from NAFTA is supposed to be billions of dollars worth of new investment. But until that day arrives, Salinas is forced to lure capital through high interest rates and a stable peso. He is also determined to slay the inflation dragon this year—and is likely to break into single-digit territory. Meanwhile, though, making Mexico attractive to outside business and investors is starting to provoke an economic crisis at home (table). Gross national product, which had been growing an average of 3.3% annually since Salinas took office back in 1988, probably won't

rise more than 2.1% this year—only slightly faster than Mexico's population growth.

Mexican companies have been going through wrenching adjustments for the past five years or so, remaking themselves to survive as Mexico opened its doors to the world. Now, the economy seems to be hitting a wall. Another round of layoffs could come as businesses face sluggish demand. Employment in manufacturing is down 5.6% from last year. Among the industries hardest hit: textiles, electronics, petrochemicals, and steel.

TIGHT REIN. The problems are multiplying. Lackluster first-quarter corporate earnings have pushed Mexico's stock market down 15% so far this year. Recently privatized commercial banks are reeling under bad loans, which account for 8% of their portfolios. To prevent further losses, they have slashed by two-thirds the amount of credit they offer to consumers and business owners, who must pay 28% annual interest, even though Mexico's inflation is hovering around 10%. "What's going on is painful but necessary," says economist Juan Reyes Heroles of consultants Grupos

omistas y Asociados in Mexico City. terminated as they are to keep a tight Cabinet officials are showing uncharacteristic angst. Finance Secretary Aspe recently told *Le Monde* of he believed there was a definite of social instability" if economic movement was not felt soon. Those es come after more than 90,000 layover the past 18 months at the state company, among others. Because s no unemployment insurance in o, many have turned into street rs, hawking everything from flow radios.

ne of the current malaise stems the early stages of Salinas' aggres-modernization program. Survivors e first onslaught of foreign compe-after tariffs fell invested heavily in technology, mostly with borrow- Now, they're having trouble pay- if the loans.

INTUM. In the government's hands, nks were able to cover up some of oblems of their corporate borrow- ut now, with private owners, who remium sums for the banks during ast two years, they can no longer er problem loans at high interest As banks cut off credit, it spells e for corporations that have pared work forces by more than half to productivity and have no more fat . At special risk are textile compa- hich face stiff competition from imports, and papermakers, whose ts are made more efficiently in S. and Canada. "I think we're en- the moment of truth for the Mexi- onomy," says Reyes Heróles.

ing to these pressures is the stale- in the U.S. over NAFTA, which is Mexico's short- and medium- outlook. Talks among the U.S., a, and Mexico are at an impasse so-called side agreements to the , which will append rules on labor and the environment. The U.S. tough enforcement bodies on each while Canada and Mexico are wor- bout potential trampling of their ignty. Public opinion in the U.S. is ivided over how strong the side nents should be. The betting now t Clinton could save NAFTA, but l has to cross some treacherous

as the economist knows he must to his guns to guide Mexico h the difficult months ahead. But s the politician also knows that as earend deadline approaches for g his party's next presidential ate, it will get harder and harder Mexicans to keep waiting for bet- rs. Meanwhile, the NAFTA cloud up continues to cast its long shadow. *Geri Smith in Mexico City, with s Harbrecht in Washington*

GERMANY

HOW MANY PARTS MAKERS CAN STOMACH THE LOPEZ DIET?

VW's production czar wants leaner suppliers—a death knell for many

The managers of Europe's huge auto-supply industry are about to take a crash course on how to make their businesses leaner—much, much leaner. Their instructor? None other than José Ignacio López de Arriortua, new production director for Volkswagen, former purchasing czar for all of General Motors Corp., and acknowledged master of inflicting pain for gain. On June 21, three

months after his controversial arrival at Volkswagen, López will dispatch hand-picked teams to VW suppliers throughout Germany and Europe. They will spend a week at each one, scrutinizing factories and showing how to cut inefficiencies.

To the hard-driving López, this detail work is the stuff that creates momentous change. Once before, as a GM manager in Europe, he wrestled Opel's supplier costs down until they were the lowest for any German carmaker. Now, López argues, Volkswagen can do the same by boosting suppliers' productivity 30%, then winning big cuts in the prices VW pays them. Leaner suppliers will help López realize his dream of building a



LOPEZ SAYS GERMAN SUPPLIERS CAN BOOST PRODUCTIVITY BY 30%

plant in Spain that can assemble cars in world-record time. But if suppliers resist, López says Europe's car industry will be woefully unprepared for what he calls "the last battle." At a June 14 press conference in Hanover, López warned: "If we lose, we will become second-class citizens" behind car producers in Japan, the U.S., and South Korea.

Yet a López-led onslaught could have devastating results

for the already hard-pressed auto-supply business, which lies at the heart of Germany's crucial *Mittelstand* sector of midsize companies. After a five-year slide in net profit margins, the average German auto supplier is now operating in the red (chart).

NO RELIEF. Even before López announced his plans for VW, the suppliers' customers weren't cutting them any slack. "The auto makers are clearly trying to pass part of the extraordinarily high competitive pressure on to suppliers," says Alexander von Tippelskirch, a board member at Dusseldorf's IKB Deutsche Industriebank. Indeed, he says, customers report that some manufacturers are already arbitrarily lopping 5% to 10% off suppliers' bills. Little wonder that by the end of 1996, as few as 500 of Germany's present 3,000 auto suppliers will be earning decent profit margins of 5% or more, forecasts Peter Cullom, senior manager at Price Waterhouse in Frankfurt. Some 100,000 workers from the industry's present roster of 750,000 could go on the dole.

Associates say López' demands for a "quantum leap" in productivity could winnow the ranks of VW suppliers from more than 1,000 to as few as 60 "systems suppliers" who can deliver complete subassemblies. To meet these new demands from VW

PROFITS GET SCARCE AT GERMAN AUTO-PARTS MAKERS



and other customers, German parts makers such as Robert Bosch are already shifting labor-intensive production abroad to such locations as Spain and Malaysia.

"REVOLUTION." Meanwhile, foreign companies are preparing for López, too. ITT Automotive is merging several German units into one European company. The automotive division of Britain's \$3.7 billion Lucas Industries PLC has promised López price reductions for each of the next three years on disk and drum brakes. Divisional Managing Director W. K. Maciver won't say by how much, but he vows: "We will be moving heaven and earth to lower the cost base."

Other non-German suppliers see no other way than the López method. France's Valeo, a supplier to VW of such parts as lighting systems and air conditioners, launched drastic cost reductions three years ago. Now, warns Valeo Chairman Noel Goutard, VW's German suppliers "will have to make the same effort." They probably will—and so change the nature of their business forever. As López himself put it: "We are not [just] in a recession, we are in a revolution." And like any revolution, this one will have its victors and victims.

By John Templeman in Hanover, with Stewart Toy in Paris and Paula Dwyer in London



FUJITSU ENGINEERS ARE USING SUN'S SPARC CHIPS IN A MASSIVE PARALLEL PROCESSOR

FUJITSU GETS A HELPING HAND FROM AN AMERICAN BUDDY

As its ties to Sun Microsystems deepen, both companies benefit

These are trying times for Fujitsu Ltd., Japan's biggest computer maker. With a global recession sapping demand for its chips, telecom gear, and computers, the company recently reported its first-ever annual loss, dropping \$281 million on sales of \$30 billion. What's worse, Fujitsu customers in Japan will soon start shifting from mainframes to networks of smaller machines—the same downsizing process that for years has caused such pain at IBM in the U.S. and Europe.

But for Fujitsu, the downsizing may turn out to have a bright side. Even in recession, Japanese companies are snap-

ping up workstations, especially those built by Sun Microsystems Inc. And that has brought a modest windfall for Fujitsu, which has been distributing Sun machines in Japan under its own brand since 1988. Fujitsu expects to sell 10,000 units in Japan this year—more than any other Sun distributor there. The success has prompted Fujitsu to expand ties with Sun, including an agreement in June to share software. "No other company is working so closely with Sun Microsystems," says Yoshiro Yoshioka, a Fujitsu director.

The two companies are now deeply intertwined, providing a textbook case of

how a leading U.S. company—without Washington's help—can weave itself into the fabric of Japan. In the late 1980s, Sun enlisted Fujitsu's design and manufacturing assistance to launch its sleek, stripped-down microprocessors called Sparc. "They were the first company willing to stick their necks out to build them," recalls Scott McNeely, Sun's president. Fujitsu soon became the main supplier of Sparc chips for PCs and computers. In return for Fujitsu's help in hoisting Sun to global workstation dominance, the U.S. company equips its machines with mostly Fujitsu-made memory chips, disk drives, and high-resolution monitors.

There's more. Fujitsu's two largest foreign affiliates—Amdahl Corp. in the U.S. and ICL PLC in Europe—are designing Sparc chips into a wide range of computers. And in the research lab, Fujitsu engineers have linked up more than 1,000 such chips in a parallel machine that tears through some calculations faster than most supercomputers. Further on, says Fujitsu's Yoshioka, "we're planning to use Sparc from the top to the bottom." And after years of investment, the Sun-related business is starting to turn a profit. Fujitsu now accounts for about 25% of Sun's Japanese sales, about \$700 million a year, while Sun annually buys an estimated \$200 million worth of components from Fujitsu.

BIG LEAD. As competition in the workstation business stiffens, Sun is counting on Fujitsu to polish the technology and pull in more top-tier customers around the world. Industry sales of workstations are poised to double, from 563,000 units in 1992 to 1.6 million in 1997, according to International Data Corp., a market researcher based in Framingham, Mass. Today, Sun enjoys an overwhelming lead, with 38% of global shipments. But the company is already under siege from Hewlett-Packard, Digital Equipment, and Silicon Graphics—all of which have bested Sparc on sheer processing speed. And Intel Corp. poses an even greater challenge with its lightning-fast Pentium processors, which let desktop PCs double as workstations.

Fujitsu and Sun view Intel's near monopoly in PC microprocessors as a source of plague, leaving little room for other computer manufacturers to add value. In contrast, Sun's approach is largely open. For a \$99 license fee, anyone can buy the basic tools to make new Sparc chips. Together, Fujitsu and Sun hope to spread that gospel. As the competition intensifies, what started as a simple alliance is looking more and more like a promising growth business.

By Neil Gross in Tokyo, with Robert Hof in San Francisco

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Dr. Michael Hammer



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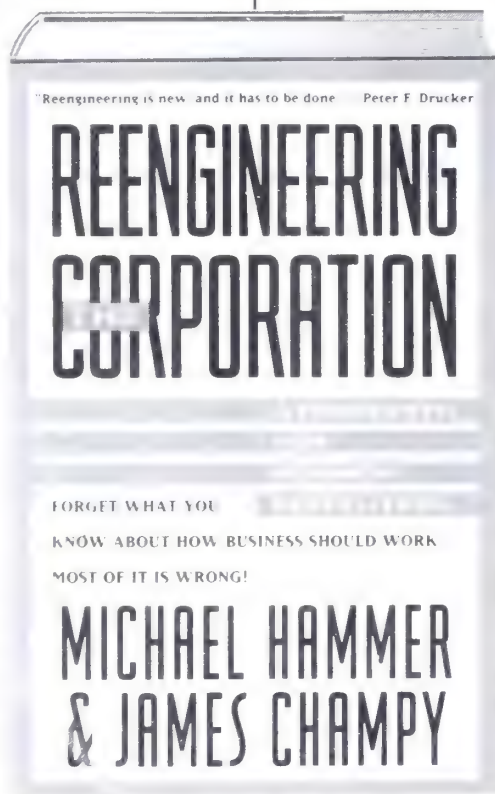
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**THE NEW YORK TIMES
BESTSELLER**

James Champy

Chairman of CSC Index, Inc., the consulting firm that pioneered the development and practice of REENGINEERING. He has been featured in *Fortune*, the *New York Times*, the *Boston Globe* and the *Wall Street Journal*.



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LONG, HOT SUMMER FOR CANADA'S KIM CAMPBELL

When Kim Campbell takes office on June 25, she will assure herself a place in history as Canada's first woman Prime Minister. But unless she's a shining success, she may soon be history herself. Campbell will call a general election by late fall. That gives her little time to bolster her Progressive Conservative Party, which in the recent poll trailed the opposition Liberal Party by 10%.

Three months ago, when Campbell entered the Tory race to replace Brian Mulroney, she appeared unbeatable. Bright, witty, and photogenic, she came across as a refreshing change from the Mulroney. Not since Pierre Trudeau was on the scene in the 1960s had a Canadian politician inspired such fervor. As Campbellmania spread, it appeared that the 46-year-old Defense Minister from Vancouver would easily lead the Conservatives to their third straight victory.

But the relatively inexperienced Campbell squandered much popularity through a series of blunders—such as dismissing those in charge of the government as “condescending” and “boring”—that have made her seem arrogant. On June 13, she even came close to losing her party's leadership race to the more experienced Environment Minister, Jean Charest.

CABINET. She now has the unenviable task of convincing Canadians that she represents a big change from Mulroney—even though she'll be mostly sticking to his agenda. To create an appearance of change, Campbell is expected to name a largely new Cabinet. She is urging Charest, 34, to resign his differences with her and accept a top job. Also, she is expected to move into 24 Sussex Drive, the Prime Minister's residence, unless she wins the election in the fall.

Campbell won't veer far from Mulroney's policies. She is expected to step up his efforts to hack away at budget deficits, and to have pushed government debt to a staggering 91% of

gross domestic product (compared with 51% in the U.S.). And she promises to balance the national budget within five years. For starters, Campbell will shrink the Cabinet and may also unveil a new budget that makes deeper cuts in the \$25 billion deficit than Mulroney promised.

DRAWING FLAK. Although she's a fervent free-trader, Campbell is under pressure to take a tougher line on trade relations with the U.S. Already, Mulroney has pushed the North American Free Trade Agreement (NAFTA) through the House of Commons. But U.S. insistence that there should be trade sanctions to enforce the side agreements on labor and environmental standards is drawing Canadian flak. Such sanctions would “make the side deals totally unacceptable to Canada,” says Thomas P. d'Aquino, president of the Business Council on National Issues. If this issue cannot be resolved, business leaders may press Campbell to walk away from NAFTA.

But Liberal leader Jean Chrétien could easily outflank Campbell on trade with the U.S. He is pressing for renegotiation of the 1989 U.S.-Canada Free Trade Agreement on terms more favorable to Canada. With unemployment seemingly stuck at more than 11%, the Liberals are also preparing a more aggressive job-creation program.

The Liberals are going to try to make the election a referendum on Mulroney's record, predicts Paul Martin, co-chairman of their National Platform Committee. If they succeed, Campbell will be in big trouble. She also faces a tough fight hanging on to Tory seats in Quebec, where polls show the nationalist Bloc Québécois making big gains, and in the West, where the populist Reform Party is a threat. Her selection as leader was a bold move by the Conservatives, but the coming election is still the Liberals' to lose.

By William C. Symonds in Ottawa



**INCOMING PM CAMPBELL (LEFT):
HISTORY IN THE FALL?**

their National Platform Committee. If they succeed, Campbell will be in big trouble. She also faces a tough fight hanging on to Tory seats in Quebec, where polls show the nationalist Bloc Québécois making big gains, and in the West, where the populist Reform Party is a threat. Her selection as leader was a bold move by the Conservatives, but the coming election is still the Liberals' to lose.

BAL WRAPUP

ITALY'S BLACK HOLE OF DEBT

Prime Minister Carlo Azeglio Ciampi's seven-week-old government has been working feverishly to tighten out Italy's battered public finances. But his efforts could be undermined by a mushrooming banking crisis connected to the troubles of the far-flung Ferruzzi empire—Italy's largest state-owned industrial group after Fiat. Ferruzzi, Europe's biggest dealer in agricultural commodities as well as a huge purveyor of everything from chemicals to sugar cubes, now admits that it is unable to service its debt of almost \$100 billion, much of it borrowed from some of the largest Italian banks. The

Ferruzzi clan, once Italy's most powerful after the Agnelli, now says it will relinquish control of the group.

First off, Ferruzzi's black hole of debt will vastly complicate Ciampi's plans to privatize two of the biggest state-owned banks, Banca Commerciale Italiana and Credito Italiano. With around \$1.7 billion in combined exposure to Ferruzzi, the banks now look a lot less attractive. Moreover, potential investors are likely to blanch at the banking system's poor record of credit assessment. The Italian banks have been hit by one disaster after another, including the \$7 billion bankruptcy last year of state-owned industrial holding company EFIM and the recent \$750 mil-

lion restructuring of the Aga Khan's troubled Italian assets.

All this raises serious questions about Ciampi's grand plan to revamp the Italian banking system into a German-style regime, in which large banks would maintain equity positions in industrial groups. Ciampi has moved quickly to reform long-standing legislation that had forbidden such holdings. He envisions the banks' acquiring huge stakes in big business through debt-equity swaps. But it now seems preposterous to expect institutions as poorly managed as the banks to handle the restructuring of huge chunks of Italian industry.

By John Rossant

THE TINY SHALL INHERIT THE MARKET

"Subnotebooks" are fast becoming the hot growth niche in PCs

In the 1980s, a little 4-lb. Radio Shack computer, the Tandy 100, had a loyal following among frequent flyers. It could store no more than 32 kilobytes of data, ran only its own built-in software, and had a tough-to-read eight-line screen (later expanded to 16). But it was rugged, had a full-size keyboard, and could operate for hours on just four AA batteries. Ardent fans—including roving reporters—kept Tandy Corp.'s 100 series alive into the 1990s, even though by then there were dozens of laptop and notebook computers with all the bells and whistles of desktop PCs. The problem: All those goodies—and the rechargeable batteries to power them—pushed their weight up to 7 or 8 lb., a big difference when you're racing through O'Hare.

Thanks to major breakthroughs in components, PC makers have finally caught up with the 1983 Tandy 100. From IBM to Zenith Data Systems, computer companies are stumbling over each other this year to introduce "subnotebook" computers—battery-powered PCs that are approximately one-third smaller than average notebook models and weigh less than 4 lb.

DISTANT COUSIN. The shrinkage does come at a cost, however. Every subnotebook has had to compromise on something, be it the size of the keyboard, the quality of the screen, or the sophistication of the microprocessor chip. Take the ThinkPad 500, IBM's subnotebook announced June 15. It weighs just 3.8 lb. and has a powerful Intel Corp. 486 microprocessor, an easy-to-read backlit screen, up to 170 megabytes of disk

storage, and a rechargeable battery life of four to eight hours. However, its keyboard is a cramped 10% smaller than a full-size keyboard, and its screen is small.

Then there's Hewlett-Packard Co.'s OmniBook, announced June 7. It weighs a featherweight 2.9 lb. but uses a slower 386 chip. And the screen, though large, is not lit, making it tough to read in dim light. On the other hand, the OmniBook has a full-size keyboard and can run up to nine hours on four AA batteries, making it a distant cousin to its Radio Shack predecessor. That's no accident. While doing market research prior to developing the OmniBook, HP got a consistent message, says Robert J. Frankenberg, head of its personal-computer group: "Over and over again in our focus groups, people kept bringing up that old Tandy 100."

So, despite the trade-offs, that longing for superportability should turn the subnotebook market into the hottest segment of the PC industry. "All the press hype is on PDAs [personal digital assistants], but right now the action is in the subnotebook market," says Bruce Collins, general manager of IBM's mobile computing division. "All the market data we look at shows that in 1993 the single largest growth segment in the portable market is in subnotebooks."

Certainly that's what Dataquest Inc. numbers show. The market research estimates that more than 320,000 subnotebooks will be sold in the U.S. this year, with volume more than doubling in 1994. By 1997, Dataquest estimates the annual sales will hit 2.8 million units.

Of course, it's easy to show rapid growth when you're starting from a base of zero. There were a handful of subnotebook models in 1992, and only 23,000 were sold, Dataquest estimates. But improvements in battery technology and power-management chips to extend battery life, along with the availability of energy-saving card-size storage devices that plug into a computer, have allowed PC makers this year to squeeze more features into lots less space.

Zenith Data Systems, Zeos International, Dell Computer, Gateway 2000, and CompUSA have all introduced subnotebooks this year, and they're selling briskly. Initial supplies of Zenith

Data Systems' Z-Lite, for example, sold out immediately after the product was shipped in early May. "The growth potential is exponential," says Clifford A. Jenks, Zenith Data's executive vice president for North American sales. He estimates that subnotebooks will account for about 20% of all notebook sales this year and increase rapidly from there.

The market will get its biggest boost from HP's and IBM's attention-grabbing subnotebooks, analysts say. Both offer well-known brand names and well-engineered products (table). HP's OmniBook has already won rave from reviewers for its ability to employ rechargeable batteries, a clever pop-out mouse, and ease of



TWO WAYS TO CRAM A PC INTO A TINY PACKAGE

	HEWLETT-PACKARD OMNIBOOK 300	IBM THINKPAD 500
WEIGHT	2.9 POUNDS	3.8 POUNDS
CHIP	386SXL	486SLC2
HARD DISK	20 TO 40 MEGABYTES	85 TO 170 MEGABYTES
SCREEN	9-INCH REFLECTIVE	7.4-INCH BACKLIT
KEYBOARD	10 3/4 x 4 1/4 INCHES	9 3/4 x 3 3/4 INCHES
BATTERY LIFE	3-9 HOURS (AA batteries)	4-6 HOURS (Rechargeable batteries)
PRICE	\$1,950-\$2,395	\$1,999-\$2,499

DATA: COMPANY REPORTS

It has Microsoft Windows, Word, Excel built into its read-only memo as well as HP programs for calendar address-book functions. The Think-500 scores points for including the point II pointing device from big-Thinkpads, a one-piece battery/re-ger with its own plug attached—nating the need for an adaptor and—and a standard external floppy-drive.

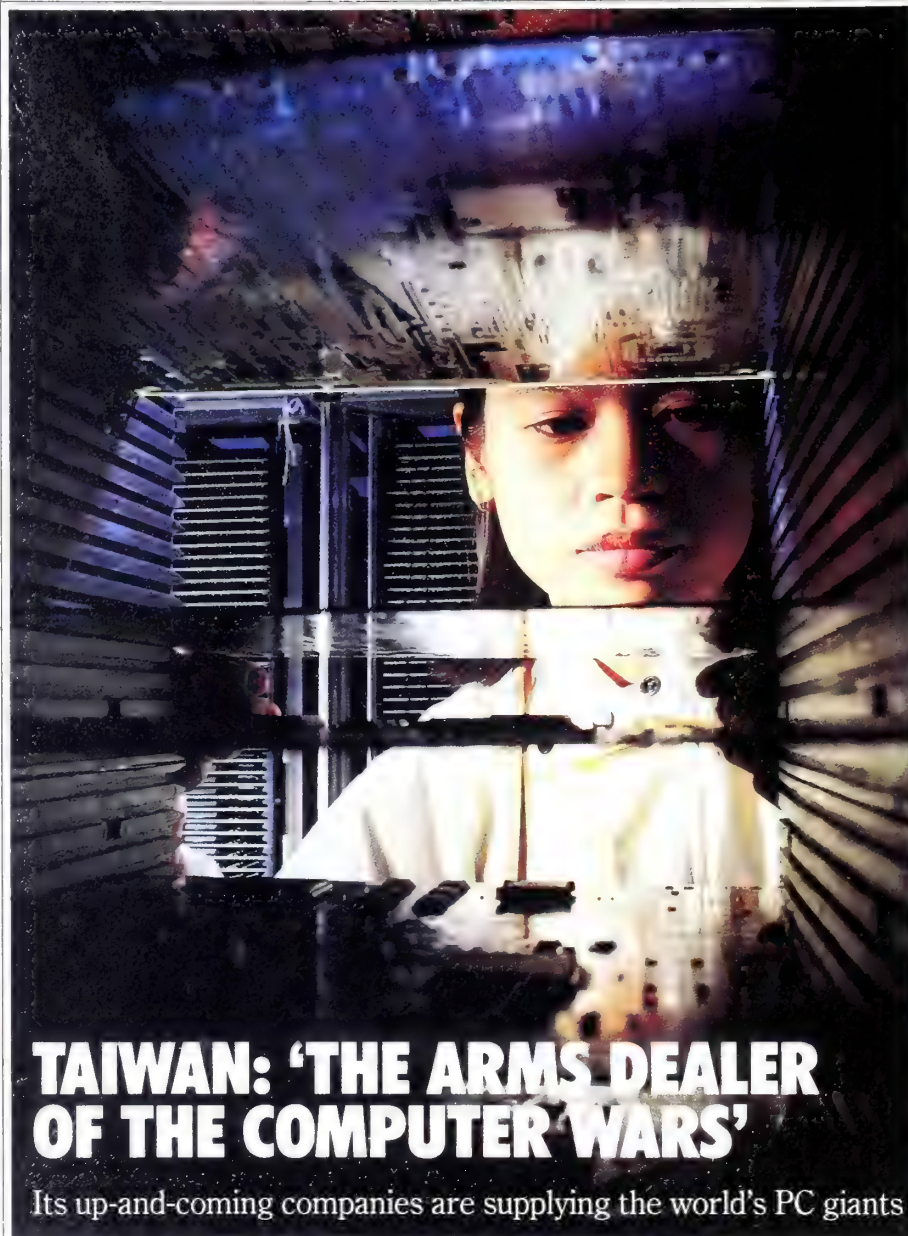
ch features should make it easy for mers to switch to the smaller size. that, says Dataquest analyst Janet ole, is why subnotebook sales will likely come at the expense of the r notebooks. True, notebooks are he rage. U.S. sales should increase this year, to 1.8 million units. But, Cole, in five years sales of full-size ook PCs will slow significantly, just les of larger laptop PCs dropped 1990 after the arrival of notebooks.

THE COMPANION. The PC makers that ashing in on notebooks don't choose e it that way. Compaq Computer, whose notebooks are the indus-est sellers, is moving cautiously the subnotebook market, saying that it will likely bring one out by nd. "We see it as a new market, obile companion for people who want the heavier weight of the ook," says Lorie L. Strong, vice-ent of Compaq's portable PC divi- She asserts that notebook users a desktop equivalent to take on oad, while subnotebook customers rmarily use their machines for onic mail. Even IBM's Clafin says here are advantages to the note-ize—larger displays, color, and inded floppy-disk drives. But he 't necessarily accept his own ar-nt: Clafin acknowledges that he ls to carry a ThinkPad 500 from on.

gions will follow suit, predicts Cole, ie reason only—weight. "For port- users, weight is the No.1 issue, battery life. The third is display y." Cole says manufacturers are g themselves if they think cus- s will choose different types of bles for different uses. "I don't a lot of people draw a distinction en notebooks and subnotebooks. s a market researcher's issue, not d user's issue."

sumers certainly voted with their s when it came to the Tandy 100. r spokesman Tony Magoulas says of that product over its nine-year pan were "extraordinary. It was est-selling portable ever." If the tebooks can inherit that legacy, will be a spring in the step of the ng traveler again.

Catherine Arnst in New York, with u reports



TAIWAN: 'THE ARMS DEALER OF THE COMPUTER WARS'

Its up-and-coming companies are supplying the world's PC giants

On the floor of a busy trade show, buyers huddle around computer screens in a booth demonstrating at least six multimedia systems using Intel Corp.'s new Pentium microprocessor and American Telephone & Telegraph Co.'s latest digital signal-processing chips. Nearby, an exhibitor shows off palmtop PCs. And in private suites, there are prototypes of everything from cordless keyboards to notebooks made of snap-together modules.

The scene isn't from some Silicon Valley gala. It's Computex '93 in Taipei, and this annual show is getting to be a hot stop on the global computer circuit. Few outside Asia have ever heard of the main participants: such companies as First International Computer, Twinhead, and Compal. But they're familiar with the names of their customers: IBM, Dell, Apple, and Packard Bell. Increasingly,

these companies—and dozens of other well-known computer makers from around the world—are stocking up in Taipei with finished PCs and notebook computers or key components such as "motherboards," the main circuit card at the heart of every computer (table, page 52).

STEALTH FIGHTER. As the big names wage the PC wars in the stores and over 800 lines, Taiwan's computer makers are playing a critical behind-the-scenes role as designers and manufacturers of the world's PCs and peripherals. Last year, Taiwan's sales of hardware hit \$6.6 billion, according to market researcher Dataquest Inc. This year, it's expected to jump 11.7%, to \$7.4 billion. More than half of that growth will come from foreign companies selling the Taiwanese equipment under their own brand names. "Taiwan has become the arms

Information Processing

dealer of the computer wars," says Robert Lo, Intel's manager in Taipei.

Not that the Taiwanese are growing fat. Despite the flood of business, hundreds of manufacturers of desktops, notebooks, and motherboards capsized last year. Even the big guys—Acer, Mitac International, and Tatung—are skating on operating margins as thin as 10%. "Orders from U.S. companies are just keeping us stable," says Henry Ma, deputy marketing director at Datatech Enterprises Co., which recently won a big order to supply IBM with motherboards.

Despite tight margins, Taiwan's computer makers are happy to chase big Western buyers. Acer Inc., which builds some of Apple Computer Inc.'s PowerBook 145 notebook PCs, is ramping up for a surge in foreign orders (page 54). So is rival Compal Electronics Inc., which ships about 40% of its notebook production to the U.S. market. Between them, the two companies exported 50,000 notebooks last year and are adding major new production lines this year. First International Computer Inc., now the leading supplier of PC motherboards in the world, is planning Asia's largest PC plant in Shanghai. Last year, Taiwanese suppliers were responsible for producing an estimated 6 million PC motherboards.

MOUSE ROAR. Taiwanese suppliers have also gobbled up bigger chunks of the peripherals business. In the past two years, Taiwan has shot past South Korea as the world's top producer of color monitors, with 11 million units shipped in 1992. The island also leads in keyboards and computer mice.

What's more, Taiwan is proving its stuff as a source of innovative design. With growing regularity, its army of nimble techies, many of them trained at U.S. universities, are beating the West's Goliaths to the market with everything from motherboards for Intel's supercharged Pentium chip to power-saving designs for "green" PCs. Reviewers in U.S. trade magazines have cited products such as Twinhead International Corp.'s new notebook PCs for value and design. "The Taiwanese no longer are relying on reverse-engineering," says Daniel A. Heyler, a Dataquest analyst in Taipei. "They're becoming the pace-setters in cost performance."

Little wonder the in-

dustry is beating a path to Taiwan. The latest callers are from Japan, where U.S. PC makers have introduced a Western-style price war. Trading giant Mitsui & Co. pushes Taiwanese PCs and notebooks at a new shop in Tokyo's Akihabara electronics district. Sharp and Fujitsu are both negotiating with Taiwanese suppliers to provide inexpensive PCs for consumers.

But the Taiwanese wouldn't have a chance in Japan, or the U.S. for that matter, if they hadn't addressed problems in quality and design. For example,

LOOK UNDER THE COVER AND FIND 'MADE IN TAIWAN'

U.S. brand	Product	Taiwan supplier
APPLE	PowerBook 145	Acer
PACKARD BELL	Desktop PCs	Tatung
DELL	Notebooks	Inventec
IBM	Motherboards	Datatech
AST	Monitors	Compal
HCR	Motherboards	First International
ZENITH	Notebooks	Inventec
COMPU DYNE	Notebooks	Twinhead

DATA: COMPANY REPORTS, BUSINESS WEEK

when Dell was looking for a 486-based notebook, many of the Taiwanese designs had problems dealing with the heat generated from the microprocessor, says Rick Germani, a former Dell vice-president. And Ellen Miller, merchandising manager for Compudyne, the house brand at the CompUSA chain, remembers when Twinhead notebooks were returned for faulty keyboards.

To gain—and keep—picky U.S. and Japanese customers, the Taiwanese

needed to stay ahead in both engineering and costs. Many Taiwanese companies have turned to streamlined development schemes that allow design to move from concept to manufacturing as little as two months.

NO REST. Twinhead has narrowed its focus to the demanding notebook market. Its 2-inch-thick SlimNote, one of the thinnest portables, was a hit, selling through CompUSA and other channels. This year Twinhead expects shipments to jump 35%. But revenues are expected to rise just 9%, to about \$175 million, fleeing the plunge in notebook prices.

Now, Twinhead is betting heavily on the even smaller SubNote, 8.5-inch by 10-inch PC weighing less than four pounds that uses an Intel chip. Again, Twinhead is out front and has landed CompUSA as its primary distributor. After two months of waiting, the retailer has failed to report any quality problems, Compudyne Miller says. "They've made great strides in subnotebooks than anywhere else." But there are some heavy steps following: Hewlett-Packard, and other big PC makers are launching subnotebooks, too (page 50).

Still, the Taiwanese are likely to get a big chunk of subnotebook production—no matter whose name appears on the outside of the machine. As U.S. and European computer manufacturers shed operations to focus on their strengths—often in software and marketing—Taiwanese companies should benefit. Acer, Tatung, and First International are all revamping their businesses to provide one-stop shopping for computer makers: everything from design to building complete systems to creating chip sets.

First International's strategy is to leverage its lead in motherboards. Although it has been having some success in Europe with its Leo brand of PCs, workstations, First International, like other Taiwanese companies, has concluded that it's better off as a supplier partner, supplying what it can to established companies in the U.S. Already many of the 160,000 motherboards it cranks out each month are on their way into one of the world's top 50 computer companies.

Now, First International is pushing its design talents, too. Among its latest products is the Predator, one of the



COMPUTEX '93: RAZOR-THIN PROFIT MARGINS DON'T DETER THE TAIWANESE

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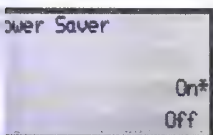
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THE NEW IBM LASERPRINTER FAMILY, BY LEXMARK. PRINT SMART.

PCs to use Intel's next-generation Pentium processor. The mass market for Pentium-based machines is perhaps a year off, says Executive Vice-President Peter Ow. In the meantime, Predator will "establish our position as a market leader," he says. Another new product is Telemedia, a multimedia card containing AT&T's 3210 digital signal processor, which reproduces voices and stereo sound.

YOUNG GUNS. With annual sales growth averaging 75%, the \$230 million First International aspires to be a multibillion dollar electronics group by the end of the decade. In addition to drawing

up plans for its Shanghai plant, which by yearend could be capable of turning out some 300,000 PCs a year, the company is boosting production of its high-speed scanners, now being distributed by Dell, and is launching a 486-based color notebook. Sister companies plan to produce batteries, monochrome LCD screens, and 1.8-inch hard disks. That will give it control of key components for notebook PCs.

First International's ambitions and its obstacles illustrate the predicament of Taiwanese manufacturers. Already, dozens of local upstarts are gunning for the company's motherboard business—throw-

ing in free software and operating systems to break even to gain market share. Meanwhile, technological leaps such as Intel's Pentium, which enables PCs to perform like mainframes, make it even more difficult and costly to keep up with the demands of Silicon Valley. But with growing prowess in manufacturing, design, and turnaround time, Taiwan may relinquish its role easily. As long as the price wars rage, the world's computer companies will find it harder and harder to hide the "Made in Taiwan" label.

By Pete Engardio in Taipei, George Wehrfritz, Neil Gross in Taiwan, and Peter Burrows in Dallas

ACER: UP FROM CLONES—AND THEN SOME

With less than 1% of the PC market, sluggish sales, inventory problems, and \$90 million in losses in the last three years, it seemed Acer Group would never thrive in the U.S. But rather than fade from the scene, Acer actually is digging in and, thanks to a sharp turnaround in the U.S., Taiwan's largest maker of computers and semiconductors expects net profits to triple, to \$30 million, this year, on sales of \$1.4 billion. That's still a modest profit but a nice change from the \$25 million loss of two years ago.

The rebound came from a streamlined assembly process and brisk sales of inexpensive PCs through such chains as Wal-Mart Stores Inc. and CompUSA Inc. It also stems from a rush of orders from big-name PC companies that buy from Acer rather than build their own.

What's more, Acer is starting to see a payoff from its investments in engineering. In May, it came out with a souped-up PC using a RISC (reduced instruction-set computing) chip and running Microsoft Corp.'s new Windows NT operating system. Acer now offers "an enticing amount of innovation without jacking up the price," says Leslie Fiering, a consultant with Gartner Group Inc.

Cofounder Stan Shih is dusting off his dream of transforming the 17-year-old company into one of the world's five top computer companies. That dream seemed to be fading in the past five years as Shih blew \$100 million

on two ill-fated acquisitions in the U.S.

Now, rather than focus only on Acer's brand-name products in the U.S., where it's overwhelmed by the industry giants, Shih says he's happy to see up to 40% of his output sold under other brands. Earlier this year, Apple Computer Inc. contracted some

turing around the world. Acer America Corp. used to get finished PCs from Taiwan by boat. By the time they landed, the machines were overpriced, obsolete, or both. In 1992, the subsidiary began assembling PCs in San Jose, Calif., from motherboards airlifted from Taipei. Since then, Acer America's

boosted output 60%, to 16,000 units a month, while cutting its work force 20% to 500 people.

Now, Shih is converting all 30 assembly sites to modular assembly—creating PCs from major components that snap together. Ultimately, Shih says, the system will be so easy that dealers will be able to assemble custom PCs with parts from regional distribution centers, much as McDonald's Corp. sells its patties to franchisees.

Not everyone is sold on Shih's vision. Says one Silicon Valley consultant, "Acer is still making

plethora of 'me-too' products" such as printers and fax machines. These efforts could divert energy from pushing hit products. And with thin margins in PC hardware and big cash drains such as Acer's unprofitable memory chip plant, Gartner's Fiering says, "the concern is their financial stability."

Shih now figures his route to stardom may be to "become more and more important as a supplier for everyone else." That may not make Acer a household name in the U.S. But it could someday make Acer the big-time player Shih always wanted it to be.

By Pete Engardio in Taipei, with Neil Gross in Tokyo



STAN SHIH'S ONE-TWO PUNCH: INNOVATIVE PRODUCTS AND PLANTS

of the production of its popular PowerBook 145 notebooks to Acer, a deal that W.I. Carr (Taiwan) Ltd. analyst Dickson Ho estimates to be worth \$100 million this year.

A SNAP. With capacity for building everything from inexpensive color monitors to complete PCs and complex custom chips, Acer is well prepared when the computer makers come shopping in Taiwan. Acer is among the world's top 10 producers of color monitors and keyboards, and Shih hopes to move his wafer-fabrication venture with Texas Instruments Inc., now devoted to memory chips, into microprocessors.

Shih is also streamlining manufac-

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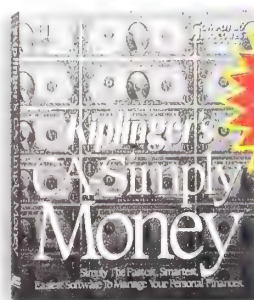
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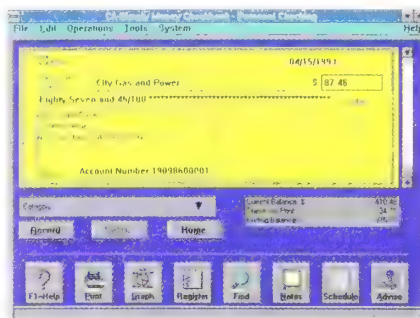
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THIS MAGAZINE COULD BE ON YOUR PC SCREEN

Breakthrough software now offers the look of glossy publications

From its Freeport (Me.) headquarters, L.L. Bean Inc. ships out more pounds of paper than pounds of its famous Maine hunting boots. The retailer prints some 130 million copies of its colorful catalogs per year and mails them to millions of U.S. households. The bulk of its catalog costs are paper, ink, and postage. But what if those costs could be eliminated? And what if Bean's savings were multiplied by those from countless newsletters, magazines, books, newspapers, and corporate documents?

Electronic publishing has been an elusive dream for years because everyday paper documents are actually rather complex. Take a page of this magazine: The headlines, the subheads, the bylines, the captions, and the words in the stories are all printed in different typefaces and sizes. And while magazines are now composed on computers using desktop-publishing software, each program has its own typefaces and formats

Adobe's stock has soared to 72, up from 31 in January. Adobe's new Acrobat electronic-publishing software, unveiled June 15, could quickly become a billion-dollar business for the \$266 million company, some analysts figure. More likely, Acrobat will be a \$100 million business in two or three years, says Morgan Stanley & Co. analyst Mary G. Meeker. **DIGITAL SNAPSHOT.** Even before futuristic superhighways bring digital documents to your living room, Acrobat and No Hands' competing Common Ground package could be hits. Just putting corporate documents, such as employee di-

file now in Adobe's pervasive PostScript format, a standard for printing documents. The \$35 Reader is for viewing documents, while the \$145 Exchange lets readers add their own information.

AD LIBITUM. No Hands, based in Mont, Calif., takes a different approach. Its \$190 software for Macintoshes makes a digital snapshot of every document, without understanding exactly what they are. So it has limited searching abilities. But pages in Common Ground format have some advantages over Acrobat. They use less disk space. And No Hands allows publishers to overlay a viewer program with their own. To popularize it, No Hands President Anthony Stayner says he's negotiating a deal with a multibillion-dollar company. He won't name names, but Microsoft, Apple Computer, and American Telephone & Telegraph are possible



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USING ADOBE'S NEW ACROBAT, L.L. BEAN'S CATALOG KEEPS THE SAME TYPEFACES AND GRAPHICS AS ON PAPER

rectories and technical manuals, on a network is a big opportunity. John E. Warnock, Adobe's CEO, figures that a billion bytes of computer-disk capacity—enough to store 200,000 complex document pages—now costs about \$2,000, or about a penny a page. Once on disk, they can be searched anytime by anyone on the network with no added distribution costs. "It's cheaper to buy a computer for each employee than to keep sending them all that paper," he says.

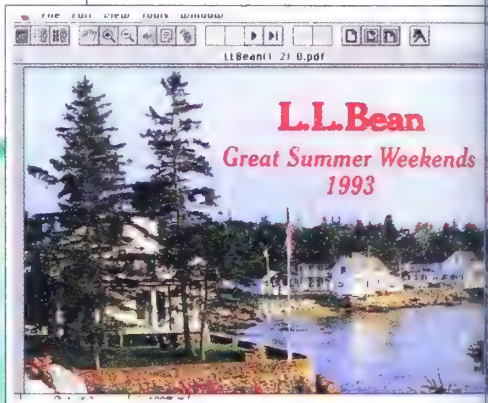
Making this practical, says Warnock, is the "portable document format," or PDF, from his Mountain View (Calif.) company. Running on networks of Apple Macintosh and IBM-compatible PCs, the PDF allows documents authored in different applications programs to be exchanged. Acrobat comes in three parts: The \$695 Distiller converts into PDF any

ities—each is exploring digital publishing.

Whether this technology will pave the way to a mass market for digital books and periodicals is far from certain. Nobody knows, for instance, if ordering articles on computer or TV screen. They could just call up certain pages and print them out. But will they pay a per-page basis? Also, what happens to advertising? Electronic search makes it easy to ignore ads.

Still, publishers are eagerly experimenting. Ziff-Davis Publishing Co. is using Common Ground for an on-line page of its *MacWeek* newspaper—with advertising. Hughes Aircraft Co. is using it for newsletters. Among Acrobat's early customers are the *New York Times*, for its fax edition, and McGraw-Hill Inc., for *Byte* magazine. R.R. Donnelley & Sons, the largest U.S. commercial printer, is helping customers implement Acrobat. Among them is L.L. Bean, which is testing it for electronic catalogs. So one day, you may find yourself hunting for a pair of Maine hunting boots with a mouse.

By Evan I. Schwartz in New





Health Care and American Business



THE PROBLEM ■ THE PROMISE



HEALTH CARE and AMERICAN BUSINESS

The Problems, The Promise

In The Wizard of Oz, L. Frank Baum traces Dorothy's journey from Kansas to Oz and back again. During their pilgrimage "down the yellow brick road," Dorothy and her dog team up with the Cowardly Lion, the Scarecrow, and the Tin Woodsman. To the group, a Wizard offers cures and solutions provided they first go on a dangerous journey.

While traveling, Dorothy and her friends take risks and make sacrifices. They make difficult choices, and rely upon each other. They learn to look at the world differently. They mature. For many Americans an encounter with the health-care system is like an unscheduled trip to the land of Oz. Oz is powerful and holds tremendous promise.

But for others, Oz appears to offer more than it actually does. And the "man behind the curtain" may have less magic than he would like you to believe.

People are living longer, medical treatments are greatly improved, and whole illnesses are being eliminated. Americans are expecting more from the health-care industry. But individual responsibility for maintaining good health and effectively purchasing health care is declining and so is health-care purchasing power. Americans are looking for more services, assurances, and guarantees from their health-care industry.

Whereas Dorothy and her troop had to find only one Wizard in the land of Oz, health-care Oz is far more complex. The landscape is uncharted and constantly evolving. There is no yellow brick road. There are many wizards, and each wizard maintains a separate agenda and exacts different costs.

Today, health care is politically hot. It is repeatedly cited as the concern most affecting Americans and their voting behavior. As health care consumes an increasing percentage of the corporate dollar, companies are seeking a voice in its restructuring. Although the biggest companies pay the biggest bills, smaller businesses are also hard hit by health care. Ability to provide

benefits is becoming a crucial competitive recruitment factor in the business community. At the individual level, health care is purchased imprudently, and is misunderstood by most Americans, who do not know how to buy and consume health-related services. Consumers' expectations are further clouded, since the topic raises emotional concerns, like mortality and freedom of choice. The insurance industry is being forced to examine its responsibilities not only to its clients, but to its shareholders, and to society at large. Industry leaders are questioning practices that limit coverage.

Assumptions about the business of medicine are being debated. Health-care providers see themselves as "under siege" as the cost and the value of health-care services are questioned. The actual practice of medicine is also being reevaluated. Providers' practices are monitored and defensive medicine is the norm.

The pharmaceutical industry, which has actively contributed to America's leadership in health care, sees government regulations as a direct threat to future research advances.



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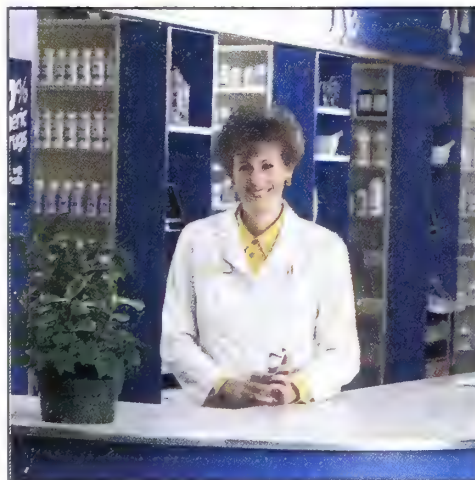
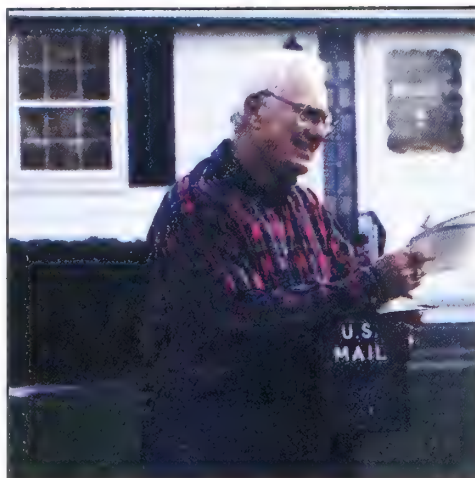
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Public health-care programs—especially Medicaid and Medicare—are becoming more costly and less effective. Federal, state, and local governments are saddled with the escalating costs.

Amidst all this confusion, government gridlock, partisan interests, and, private lobbying efforts are causing a health-care myopia that exacerbates existing problems and precludes a national vision on health-care reform.

As long as health care operates in a free marketplace and research continues to improve existing treatments and extend longevity, simplification of the health-care environment is not likely. Successful restructuring of the existing health-care system will require immense compromises.

The Central Issues

▲ **Access:** Can America ensure access to quality care for all citizens, and still respect what has become the cultural norm of free choice when selecting health-care providers?

▲ **Level and quality of care:** Can the nation determine what is appropriate care while ensuring fair distribution of health-care resources?

▲ **Accountability:** Can a system be designed that affords accountability to both the patient and society?

▲ **Paying the cost:** How can America finance a restructured health-care system so that the costs and benefits are distributed fairly?

Riding the Twister— How Did We Get Here?

Dorothy saw the impossible, like witches flying on broomsticks, and she was forced to construct a new sense of reality. Americans—many of whom do not fully understand the structure and dynamics of today's health-care system—feel like they, too, are being transported by a twister. They are being moved to a less familiar health-care world where there are new rules and a different language.



Numerous interacting forces resulted in the health-care twister, including forty years of unmanaged evolution during which health care was inexpensive and easily obtained.

Today most health care is neither cheap nor easily obtained nor well managed. Defining who is and is not insured shapes the problem of access, while levels and quality of care, and accountability must be considered within the context of the escalating health-care cost spiral.

Defining the Uninsured

Some 73 percent or over 158 million non-elderly (under age 65) Americans are protected by some form of health insurance. The number of Americans without health insurance, both in number and as a percentage of the population, has been increasing steadily for the past several years. The Healthcare Leadership Council suggests that "cost shifting" from the uninsured can increase insured groups' health care bills by up to 15%.

Despite a lack of agreement on the number, it is recognized that the uninsured have an impact upon the entire system. The uninsured generally do not have a regular health-care provider. They receive neither preventative care nor early treatment for acute illnesses, seeking treatment only after an accident or most frequently when an acute illness has become life-threatening. In both cases treatment is sought at the highest-cost facilities, usually emergency rooms.

The Cost of Health Care

Health-care costs—both absolutely and as a percentage of the gross domestic product—have been increasing steadily for the past



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AMERICA'S UMBRELLASM

decade. One analysis suggests that health care assumes a greater percentage of the gross national product than education and defense spending combined. Without changes in the current system, the nation's health-care costs will exceed 1 trillion dollars within the next 3 years.

Health-care inflation far exceeds the general inflation rate. While economists assert that the American economy cannot continue to sustain increases in health-care inflation that outpace the general inflation rate, there is little agreement on ways to manage health-care inflation. Proposals to restrict or limit care are viewed as draconian or partisan, while others that fundamentally alter Medicare or other entitlement programs are deemed politically incorrect.

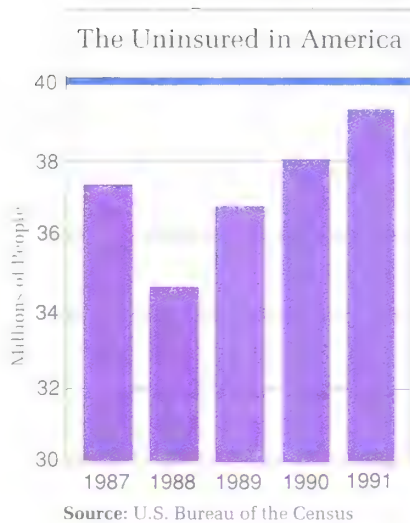
The Health-Care Work Force

The health-care industry is a leading source of American employment. One in six new jobs created during the past decade is linked to the health-care industry. These positions include skilled technicians and paraprofessionals, and a massive administrative infrastructure. While these jobs have contributed to the cost problem, their elimination could have devastating economic effects.

Salaries of health-care providers drive the awful cost spiral. The American Medical Association reports that the average physician's income in 1991 was in excess of \$191,000. Complementing the increased salaries for physicians is a significant increase in the salaries for other health-care providers, such as nurses.

Technology and Pharmaceuticals

Health-care technologies and pharmaceuticals, as tools, often



provide cost-effective testing and treatment. However, these products are costly and seen as leading cost drivers. For example, diagnostic imaging (ultrasound) can eliminate the need for more expensive exploratory surgeries. At the same time, these techniques can cost three to four times more than traditional X-rays. Similarly, drug therapies, while expensive, can eliminate the surgery, reducing the direct medical expenditures by up to 85 percent.

Pharmaceutical companies' pricing policies are identified as another contributor to the cost spiral. Although heavily regulated during the research and development phases, existing patent laws afford pharmaceutical companies significant freedom to price their products upon FDA approval. From the mid-1980s to 1992, prescription drug sales increased by 39 percent. During the same period, the most frequently prescribed drugs doubled in price, with an overall price increase of 80 percent.

To preclude federal regulation, most leading pharmaceutical manufacturers are now voluntarily limiting price increases on existing products.

The Insurance Industry

Between 1987 and 1991, the cost of health insurance for a single individual increased by nearly 80 percent and over 70 percent for a family. All insurers try to reduce their risk by insuring the largest companies, where premiums are based upon the company's experience and risks are lower. Insurers who provide service to small employers and individuals base premiums not upon experience, but on some industry or community rating.

Hospitals and Changing Patterns of Practice

During the 80s, the average hospital cost grew from \$250 to \$700 per day. Cost increases are attributable to staff increases and ensuring that existing facilities are technologically current. Hospital costs are not absorbed equally by all payors. Private payors subsidize costs not assumed by Medicare, Medicaid, and the uninsured.

Malpractice and Fraud

The American Medical Association asserts that rapidly increasing malpractice premiums, fears about costly settlements and highly visible court cases all contribute to the costly practice of "defensive medicine," in which doctors order tests and undertake other expensive actions just to protect themselves from egregious charges of malpractice.

Health-care fraud, according to a 1992 report to the Attorney General, is an increasingly costly and systemic problem that affects consumers nationwide. The Department of Commerce estimates that health-care fraud accounted for some ten percent, or nearly 82 billion dollars of all health-care expenditures in 1992.

You can tell high blood pressure by these symptoms:

(Very often, there are none!)

It's hard to believe that over 35 million Americans have a dangerous disease...very often without a symptom. But that's what high blood pressure (hypertension) is like. A hidden illness, yet one of the easiest to detect—and to treat. Untreated, it can affect your brain (stroke), your vision, heart (infarction), blood vessels and kidneys. Anyone can be affected, although factors such as age, sex, race or family background play a role.

Fortunately, there's plenty that can be done to treat this condition. Only your doctor can diagnose hypertension, but you can help head it off through healthier living—reducing weight, cholesterol, salt intake, stress, anxiety and stopping smoking. An improved lifestyle, and blood pressure-controlling medicines can substantially lower your risk for heart attacks and stroke. But the first step is to see your doctor.

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PART 3

What's in This for Me?

Dorothy was helped by Oz's citizens. However, all of them, including her closest friends, had an interest in Dorothy's success. For example, the Tin Woodsman might gain a heart, the Cowardly Lion could get some courage, and the Scarecrow acquire brains. Luckily there was only one Wizard and there were no losers; health-care reform Oz is different.

No fewer than fifteen different stakeholder groups are promoting their own distinct vision of an equitable health-care system. In general terms any significant change will require a culture shift in how Americans — consumers and providers — think about, pay for, and consume health care. Most every proposal implicitly or explicitly requires greater individual responsibility.

Every proposal has its price. Increased access guarantees increased costs. While some of the costs can be absorbed by reducing fraud and improving administration, the sizable balance will have to be absorbed through increased taxes and/or restructuring the delivery system.

The National Center for Policy Analysis argues that most Americans appreciate neither the



ost
or the true
value of health care.
they suggest increased individual
responsibility for purchasing and
paying for health care will change
attitudes, consumption patterns,
and ultimately control costs. To do
this, they propose that
citizens be required to purchase
insurance that provides a basic
number of services. Low income
individuals would be subsidized
through government tax credits.

In strong contrast are pro-
ponents of nationalized systems
that refine the existing Canadian
system or expand California's pro-
posed Garamendi Plan. Employers
and employees would pay a man-

dated payroll tax. All partici-
pants select service from a
"basic" plan. Individuals would be
responsible for any additional cov-
erage and/or expanded services.

Between these two
extremes are a number of different
proposals, including two govern-
ment proposals — "Play-or-Pay"
and "Managed Competition," each
with variations. Under the best-
known version of play-or-pay,
employers either provide some
minimum health-insurance benefit
to all employees ("play") or con-
tribute a sizable payroll tax to the
government ("pay"). Payroll taxes
would be pooled to subsidize
health insurance premiums for the
uninsured. The cost to businesses
for playing would be significantly
less than for paying.

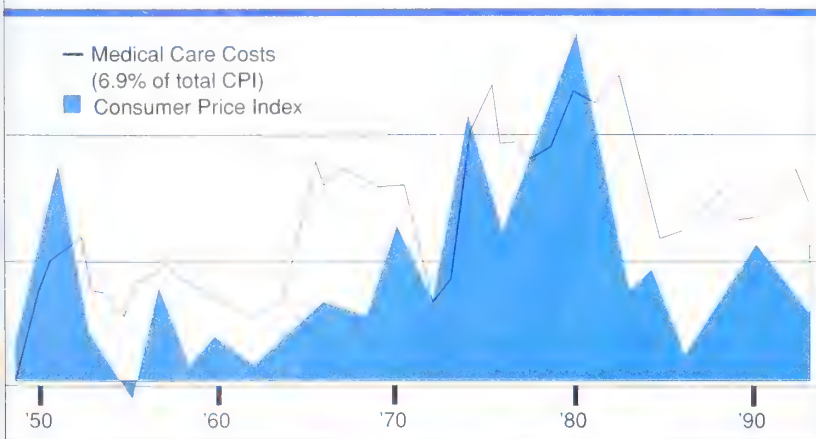
There are at least two
major variants of the other govern-
ment proposal, "Managed
Competition:" the Conservative
Democratic Forum (CDF) version,
and The Jackson Hole Group
version. According to managed
competition advocates, either
approach will provide health-care
access to all Americans, it would
group smaller employers into
large cooperatives, shift risks
from individuals and government
to health-care providers who would
be evaluated by the cost-effective-
ness and outcomes of their service,
and help individuals become better
health-care consumers.

Under both managed-com-
petition plans, Health Alliances
(also called Health Plan Purchasing
Cooperatives or HIPs), Account-
able Health Plans (AHPs), and a
National Health Board (NHB)
would provide a framework for
organizing and delivering health-
care services to individuals and
companies. While Health Alliances
would help small employers reduce
administrative costs and spread the
risk, AHPs would provide a stan-
dardized health-benefit plan at a
fixed cost.

Insurance companies,
HMOs, groups of hospitals, and
physicians can become AHPs.
AHPs are responsible for their own
performance and must disclose
"outcome information"—things
like death rates and other measures
of how well they do their jobs.

The NHB would oversee
the entire new infrastructure by
standardizing administration, pro-
viding consumer information on
AHPs (drawn from their "outcome"
reports), and ensuring comparabil-
ity among AHPs. The NHB would
also evaluate the effectiveness and
potential of new medical technol-
ogy and clinical procedures.

Medical Care Has Escalated Faster Than Consumer Prices



Source: The Conference Board

PART 3

"Click your heels three times and say..."

After melting the wicked witch as directed, Dorothy discovered the Wizard was a phony. Once the good witch explained the technology available (magical ruby slippers), however, Dorothy found she had the power she needed to realize her wish. Indeed, she had it all the while.

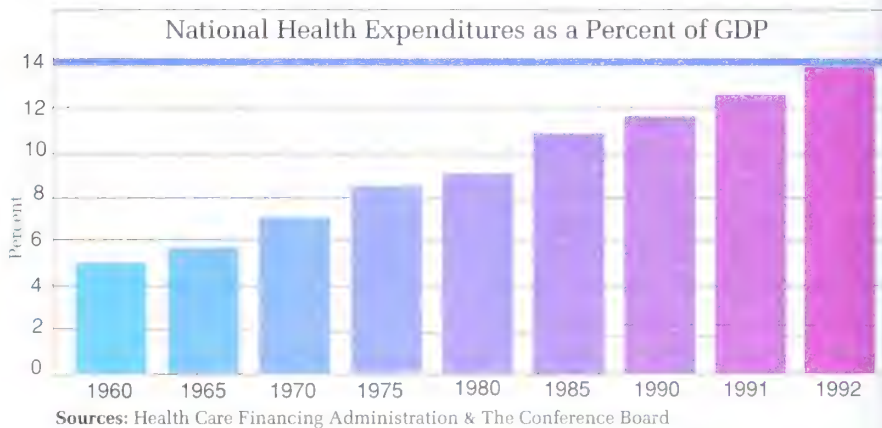
As health-care reform continues to evolve, Americans will have to participate actively in the system's restructuring. Currently, most insured Americans have abdicated responsibility for purchasing insurance to either the government, through entitlement programs like Medicare and Medicaid, or their employers. With many of the proposed health reform models, the federal government becomes merely a facilitator determining national standards and guidelines. Employers would assume a central role, sponsoring plans that are affordable to both the company and its employees. Individuals not covered by an employer plan

would purchase plans independently, and states would assume a supervisory and management role, ensuring the needs of special populations.

Employer-sponsored benefits cannot be considered in a vacuum. For many corporations, health care represents one aspect of

Rationing

While in an ideal world, the concept of rationing would not occur, the reformed American health-care system will at some point need to balance the needs of individuals with the needs of society as a whole. Passive rationing will be explicitly discussed — though it will sound



the escalating benefit-cost spiral. If employers are to remain the focal point, then the relationship of health care to other programs must be reconsidered. For example, workers' compensation and long-term disability-benefits costs are also escalating quickly. For a number of companies the percentage of increase outpaces health-benefit increases. There are, however, significant differences between health benefits and long-term disability and workers' compensation. Workers' compensation and, to a lesser extent, long-term disability claims are based upon employment-related accidents. And while worker's compensation and long-term disability claims are less frequent than health claims, their overall costs per claim are greater. Further, worker's compensation claims do not generally include case management or managed care to ensure appropriate care.

like discussion of costs, values, risks and outcomes. The issues of rationing will prove especially volatile as acute illnesses become more readily cured and hit-cost treatments for chronic, terminal, and debilitating illnesses assume a greater percentage of the health-care dollar.

Dorothy's magic slippers returned her to Kansas. Unfortunately, there are no ruby slippers to instantly transform America's existing health-care infrastructure into a problem-free system. Transforming today's fragmented infrastructure into a rational and integrated health-care system will require every stakeholder to compromise, absorb additional expenses, and assume personal responsibility. Escape from Oz isn't easy.

Written by Victor S. Barocas
President, Strategic Management Group, Inc., a
human resource consulting group, and a senior
research associate with The Conference Board

Designed by Sheldon Cotler + Associates.

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STANDING BEHIND YOUR
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But Fujitsu's non-blocking architecture wasn't the only reason that New England's newest medical center – the \$218-million Dartmouth Hitchcock Medical Center (DHMC) – selected their F9600 digital PBX to take it into the 21st century. DHMC also wanted a system that was compatible with their existing phones. A system that transmitted voice, data, fax and video images to 4,700 terminals over a seven-mile network of fiber optic cable.

And a support team committed to Integrated Services Digital Network (ISDN) applications.

The answer was Fujitsu, a \$25-billion global telecommunications and computer leader serving over 100 countries.

To see what answers the F9600 has for you, call 1-800-553-3263.



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FUJITSU

COMPUTERS, COMMUNICATIONS, MICROELECTRONICS

HEAR THE MUZAK, BUY THE KETCHUP

The elevator-music folks' new push: Customized in-store ads

First it was canned music, now it's canned soup. Seattle-based Muzak Limited Partnership, the folks who bring you those bland background tunes in elevators and dentists' offices, now is jumping into in-store advertising. With its satellite receivers in thousands of supermarkets nationwide, Muzak hopes to cash in as consumer-products makers and retailers try harder than ever to nail customers right where they spend money.

Privately held Muzak, with \$65 million in sales last year, has the right technology in the right places at the right time. It is leveraging its main competitive advantage: telecommunication receivers made to Muzak's specifications

er of customized radio. But now, advertisers can reach the 42% of American consumers who shop in smaller regional chains or independent supermarkets. Muzak offers audio ads in combination with at least one other promotion, such as coupons or shelf signs. Six major grocery wholesalers have signed up for the new service, called SuperLink, and Muzak hopes at least 5,000 of the stores they supply will agree to take satellite-delivered audio ads by 1995. Muzak has invested close to \$2 million annually in audio ads for the past two years.

Behind Muzak's ambitions is a shift in ad spending. According to the Point of Purchase Advertising Institute, a trade association based in Englewood, N. J.,

highly targeted, specific type of marketing," says Dick Blatt, POPAI's executive director.

With Muzak, advertisers can get very specific indeed. Say you want to push your brand of refried beans in Hispanic markets. Muzak can broadcast your message in Spanish to grocery stores in Latin communities in California, Florida, or Texas. If you want to advertise snow shovels in November, Muzak can send your ads only to stores located in snowy regions. Clusters of three 20-second ads fit snugly between eight minutes of classical, light rock, or hip-hop.

HOT NEWS. What's more, wholesalers can use Muzak to send electronic-messages simultaneously to hundreds of retailers—from product recalls to bag gains on overabundant berries. The messages appear on printers in supermarket managers' offices and save the time needed to call individual retailers. "We didn't realize how powerful it would be. Retailers call us back instantly," says Phil Kalivoda, director of in-store media for Oklahoma City-based Fleming Cos., the second-largest U.S. grocery supplier.

Fleming, which first tested in-store advertising with Muzak last year,

HOW MUZAK CLAIMS TO MOVE PRODUCTS

SALES INCREASE WITH AUDIO ADS*



and placed in some 200,000 businesses across the country. Since each site has a unique receiving code, Muzak's computers can target its 12 music channels—and audio advertisements—to stores according to geographic area, ethnic community, type of chain, or time of day.

JINGLE JUNGLE. This summer, Muzak will link more than 1,800 satellite-connected supermarkets into a single network on which national advertisers can make a general pitch or a number of pitches targeted demographically. Big chains such as Winn-Dixie Stores and the Great Atlantic & Pacific Tea Company have had in-store audio ads for up to five years, most supplied jointly by Muzak and PopRadio, a New York-based provid-

in-store advertising has grown at almost twice the rate of radio and TV ads since 1988. POPAI says that's because two-thirds of all purchase decisions are made at the point of sale. "People go to the store knowing they want to buy, say, ketchup, but they don't decide which brand until they get there," says Muzak President John R. Jester.

In Donnelley Marketing Inc.'s latest annual survey of promotional practices among consumer-goods makers, 31% of large companies said they would place more emphasis on in-store promotions this year than in 1992. "With the trend moving away from mass communication, Muzak and other in-store advertising and marketing companies are doing a

pleased with the audio ads. Reason: Results of a test conducted by Muzak and Walker Research at 40 Fleming-supplied ABCO stores in the Phoenix area showed that Muzak ads, combined with visual displays, produced double-digit sales increases in some cases. Now, Muzak targeting auto-parts chains, and ear-test results look promising.

That's just what advertisers want: proof that a promotional method works. TV and radio ads spread brand awareness, but it's impossible to precisely measure their effect on sales. With the proliferation of cable channels, TV advertising is getting fragmented. Fewer homemakers stay home watching the soaps. And Muzak says its audio ad



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cost 40¢ per 1,000 people reached, compared with industry averages of \$8 for newspaper ads and \$5.05 for TV spots.

Muzak has been rapidly expanding from its basic music franchise since 1988, when Jester and Senior Vice-President Jim Harrison came on board. They expanded the music offerings to 12 channels and added satellite broadcasts to Muzak's two traditional methods of distributing music: tape reel and local FM radio. They also began soliciting customers to use its satellite system to transmit such data as store results. Profits have grown 14.4% a year for the past five years, for a cumulative 82.2%. The bulk still comes from music, including royalties from Muzak franchisees.

But Jester and Harrison say that is changing. Taco Bell Worldwide is using Muzak's satellite system to communicate with its more than 2,200 scattered fast-food restaurants. In late 1991, Muzak added direct-broadcast video so that customers such as Dayton Hudson Corp. can put an executive on the air to talk to employees in branches across the country. Now, besides its push into advertising, Muzak is testing half-hourly news broadcasts on its music channels and printed news bulletins for its satellite subscribers. It may also send audio ads into sporting goods stores, health clubs, and nursery and garden suppliers.

EAR ACHES? Muzak has few competitors for the audio segment of the in-store marketing field. With its large installed base of receivers, it has a ready-made advantage. But whether that will give it a long-term edge in the ad world remains to be seen. In a recent study by Myers Marketing & Research, point-of-purchase promotions that put something into people's hands, such as coupons or samples, were more effective than audio ads. And at a time when brand managers are concerned about their products' image, Muzak ads may not be the best way to win loyalty. Says Al Ries, chairman of Connecticut-based marketing strategist Trout & Ries: "Audio is very intrusive. It bothers people unless the message is carefully selected."

Of course, the bottom-line question is: Do shoppers really listen to Muzak? A recent incident suggests that they do. One grocery wholesaler used Muzak's system to give tips on buying eggs. The announcer was supposed to inform shoppers that fresh eggs should sink in water. But he got it wrong, saying instead that fresh eggs float. Customers began returning eggs en masse, and Muzak pulled the spot immediately. The wholesaler was chagrined—but at least glad to know someone was really listening.

By Dori Jones Yang in Seattle, with Joan Warner in New York

TRAVEL

WILL TRAVEL AGENTS GET BUMPED BY THESE GIZMOS?

ATM-like devices could one day sell a quarter of all plane tickets

Remember when getting cash from an automated teller machine was a big deal? Now ATMs are old hat. But pretty soon, consumers will be rolling a new acronym off the tongue—ETM. That stands for electronic ticket machine, and it represents the latest effort by the travel industry to make trip-taking easier than ever. Phone in your reservation to a local travel agent or an airline, stick your credit card in the nearest ETM, and out pop your airline

the privilege—somewhat less than express mail or a messenger would cost to deliver new tickets. So far, three companies—Airline Computerized Ticketing in Santa Ana, Calif., Mail Boxes Etc. in San Diego, and QDAT Corp. in Scottsdale, Ariz.—have begun setting up networks and plan to install a total of 12,000 machines by the end of 1995.

A MATTER OF TIME. If the ticketing networks are a boon to travelers, they could prove the bane of the nation's

41,000 travel agents, who now book 85% of the roughly \$45 billion in annual airline reservations. With commissions at around 10% to 12%, that brings their yearly revenues of \$3.5 billion to \$5 billion.

But if travelers can pick up their tickets by just walking up to a machine, how long will it be before they are able to use the machines to book their own flights, hotel reservations, and car rentals?



COMING SOON: A PROTOTYPE ETM IN NEW YORK

tickets. Although specific airlines already make tickets available through satellite printers at limited sites, ETMs, which produce tickets for all airlines as well as railroads, aren't yet available. But by summer's end, pending anticipated approval by the industry ticketing association, travelers will find ETMs showing up by the thousands—in office buildings, hotel lobbies, airports, and other sites around the country.

The machines will definitely make life easier for travelers. Many, particularly business fliers, have their tickets delivered right to the office. But what happens if you're attending a convention in Phoenix and decide you need to shoot up to Seattle before heading back to Chicago? That's where ETMs come in. Simply call the airline, and arrange for a new ticket. Or call your travel agent. Assuming the agency subscribes to the ETM system, your reservation can be changed, and the machine will issue a new ticket in your hotel lobby in Phoenix, pronto. Travel agents will pay \$9 for

tals? "If there are machines where people can obtain tickets without going through travel agents, people are going to use them," frets Paul Bessel, president of the Association of Retail Travel Agents, a 3,000-member industry group. Barry Lemley, director of agency accreditation services for Airlines Reporting Corp., a liaison between travel agents and airlines, predicts that remote ticketing machines will come to handle as much as 25% of all airline booking within five years.

To be sure, not all travel agents fear the ETMs. The 20,000-member American Society of Travel Agents claims that machines can't replace people in such a service-oriented business. "You can't go in and plan your family vacation with one of these machines," says Stephanie Kenyon, ASTA's assistant vice-president for industry affairs. Yet if America's love affair with ATMs is any guide, that may be wishful thinking.

By Keith Alexander in Pittsburgh, with Andrea Rothman in New York

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CABLE HAS A NEW FRONTIER: THE OLD WORLD

Following MTV's success, U.S. networks are flooding into Europe

Bill Roedy loves roaming around Europe because he can't get away from MTV. From a Slovakian disco to a hotel on the Mediterranean island of Stromboli, "MTV is everywhere," says the ebullient president of MTV Europe. After an arduous five-year climb, MTV is now beaming Kris Kross and the Scorpions into more than a third of Europe's 120 million TV households. By next year, it could surpass the U.S. MTV and other stateside rivals to become the world's biggest cable network. "We've turned the corner on acceptance of a pan-European channel," says Roedy.

His colleagues back home sure hope Roedy is right. Six years after MTV, Cable News Network, and ESPN first ventured abroad, a second wave of American cable networks is flooding into Europe (table). Cultural purists, beware: British viewers will soon be watching the antics of Ren and Stimpy on Nickelodeon, while Swedes can tune in to *The Flintstones* on the Cartoon Network. As if that weren't enough, the QVC home-shopping network plans to peddle its discount jewelry across Europe in a new joint venture with Rupert Murdoch's British Sky Broadcasting.

SPECIAL CASE. The reasons for the land rush are simple. Cable growth is slowing in the U.S., while new regulations are rolling back rates. In Europe, by contrast, the number of homes wired for cable grew 10% in 1992, to 33 million. And Astra, a Luxembourg-based company, recently launched a third satellite. Its total audience has grown from 2 million to 12 million homes in two years.

Cable executives are also intrigued by the success of MTV Europe, which finally turned a profit last year and is becoming a growth engine for its parent, Via-

com Inc. They hope to duplicate that success: "Now's the time to build a brand name in the market," says Susan Kroll, general manager of Turner Broadcasting System Inc.'s new London-based TNT & Cartoon Network, which will air a mix of Turner's MGM films and Hanna-Barbera Productions Inc. cartoons.

But MTV may prove to be a special case. With a pop-music format that easily crosses borders, the network has been able to generate millions in revenue from pan-European advertisers. Other networks aren't so lucky. ESPN, for example, merged earlier this year with its Paris-based competitor, Eurosport, after a crippling four-year battle for advertising and program rights. CNN International no longer loses money, though it has only recently broken away from its image as a medium for traveling Amer-

icans. And Discovery Channel Europe, which started in 1989, may not break even until 1996 despite its 3 million viewers in Britain and Scandinavia.

The trouble is, the cable industry's economics clash with European media practices. In the U.S., cable networks get as much as half their revenue from subscriber fees. But in Europe, most cable systems won't pay such fees without a fight. Indeed, the state-run German cable system of 11 million homes actually demands that networks pay it to carry their shows.

Small wonder that most of the action has occurred in Britain, where the practice more closely mirrors that of the U.S. American cable networks are also capitalizing on the success of Murdoch's satellite-television system, BSkyB, which now reaches 2.8 million households. This fall, BSkyB plans to start charging viewers for a package of about 10 channels, including U.S. imports such as Nickelodeon and Family Channel. BSkyB predicts the new offerings will further expand its audience, which should enable the networks to lure more ad dollars.

PARTNER SEARCH. Outside Britain, though, the advertising payoff remains elusive. MTV has managed to snare dollars from pan-European advertisers such as Coca-Cola Co. But media buyers estimate that less than \$10

million of the \$1.9 billion spent on European cable and satellite advertising last year came from companies seeking a European-wide market. The reason goes to local cable channels. "MTV is not the model that other channels should count on," warns media consultant Bill Grantham.

Still, given the cable climate at home, U.S. networks think the risk is worth taking. And many feel they must move quickly. Already, European media companies are developing digital-compression technology that could quintuple the capacity of current cable and satellite systems. That will open the floodgates to new programmers. "We have to get it now to be heard above the noise later on," observes one executive. How do you say "500 channels" in Swedish?

By Jonathan B. Levine in London, with Mark Landle in New York



CABLE'S GRAND TOUR

American cable networks and their plans for Europe

Network	Countries	Launch date
QVC	Most of Europe	October
FAMILY CHANNEL	Britain	September
NICKELODEON	Britain, Germany	October
SCI-FI CHANNEL	Britain	End of 1993
TNT & CARTOON	Britain, Scandinavia, France, Belgium, Holland	September

DATA: COMPANY REPORTS

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IN 1993

UNCLE SAM GOES ON AN ECO-TRIP

And wants you to buy green, too. Will consumers get in step?

When it comes to business practices, the federal government has a miserable record as a role model. Even so, the Clinton Administration wants Uncle Sam to try again to lead by example—this time as a buyer of environment-friendly products.

To kick off this wave of eco-entrepreneurship, the President invited the nation's largest computer makers to the White House on June 17 to unveil the Environmental Protection Agency's green stamp of approval, the Energy Star. The logo will go to desktop machines that use 60% less electricity than standard units when idling. Eventually, consumers will seek out Energy Star products ranging from superefficient stoves to water-saving showerheads.

That, anyway, is the theory: If manufacturers produce greener products, environmentally conscious businesses and consumers will snap them up, even at higher prices. In the meantime, to overcome manufacturers' reluctance to design wares for this untested market, Clinton will use the government's \$200 billion in annual buying power to jump-start the products' purchase (table). "They certainly have some clout," says Harry Heisler, vice-president of Governmental Technology Services Inc. in Chantilly, Va., which sells computers to the feds. Clinton has tried to raise the program's chance of success by centering it at the White House.

SIERRA CLUB NODS. In the past, Washington's green intentions have always been frustrated by bureaucratic procurement rules and ineptitude. Sometimes, the government pushed an infant technology—as with alternative-fuel cars, where it had to spend up to \$7,000 more per car. Says Daniel J. Mitchell of the Heritage Foundation: "I'm not sure we should be spending 10% to 20% more so that Clinton can send a good press release out for the Sierra Club."

Most likely, Energy Star computers won't carry a premium. But even if they

do, the White House argues, competitive bidding shouldn't be based just on initial price. "We need to look at the price over the life cycle of the product," says Catherine R. Zoi, chief of staff at the White House Office on Environmental Policy. The EPA estimates that energy-efficient computers will save the government \$40 million in electricity annually.

The Energy Star program is off to a



ZOI: STRESSING A PRODUCT'S LIFE CYCLE OVER INITIAL PRICE

good start, because the EPA and computer makers worked well together. "They were asking questions rather than dictating," says Walter A. Rosenberg, environmental manager at Compaq Computer Corp. Timing helped, too: Computer companies have made great energy-saving strides in designing notebook units. These models, ready to be shipped by IBM, Dell Computer, and others this summer, shut down automatically if not used for several minutes. As of next October, federal agencies, which make up 3% to 5% of the U.S. computer market, must buy Energy Star computers when they replace equipment.

Other green products, such as recycled paper, are likely to be a tougher sell. Just ask Gerald J. Turetsky, who runs the General Services Administration's Office Supplies & Paper Products Commodities Center. His group, which sells to federal agencies, buys \$90 million worth of copier paper a year—enough to circle the world 100 times. Starting in 1991, he tried to meet 5% of the government's needs with recycled copier paper, though it cost 14% more than virgin paper. Paper piled up in warehouses fast because agencies wouldn't pay the premium. Only after the GSA cut the price could Turetsky hit his goal.

GOING BEGGING? The paper industry argues that the Administration is trying too hard. The government considers copier paper "recycled" only if it contains at least 50% reused fiber. Red Cavanaugh, president of the American Forest & Paper Assn., says the industry doesn't have much capacity to produce such paper. The AF&P wants the recycled-content requirement reduced to 10%. "We are still evaluating it," says Zoi, who expects a final executive order to be issued in July.

Turetsky agrees that the government should proceed cautiously. If Washington demands something unfeasible, prices will go "sky high," he says, because artificial demand will exceed supply. But the GSA will keep pushing, purchasing higher percentages of recycled paper. As demand rises and paper companies upgrade mills, prices should drop. With alternative-fuel cars, one year of experience and a big government order decreased the premium to 90%. Ozone-friendly products, however, remain expensive because alternative chemicals are still commercially unproven.

Industry's biggest worry is that it will design products to meet government requests—only to find there's no market for them. The Energy Star computers could change that. Still, until the new machines start turning up on government workers' desks, manufacturers of all green products can be forgiven if they remain a bit uneasy.

By Mary Beth Regan in Washington with Peter Burrows in Dallas

With AT&T SDN, out of the office doesn't mean out of the loop.

SDN, AT&T Long Distance Service for large companies, lets every employee stay in touch with voice mail. Even if they don't have an office.

With AT&T SDN (Software Defined Network) Voice Mail Service*, your business gets a comprehensive, nationwide communication *system* that lets everyone in your company—from the sales manager to the truck driver—communicate with everyone else. In a way traditional voice mail and answering machines can't match.

For example, SDN Voice Mail Service lets you send a message to several employees simultaneously, across the hall or across the country. You save time, they save time, *everybody's* more productive—because now you're working as a well-informed *team*. And, of

course, the information flow goes both ways: your employees can record, edit, send, receive and store messages wherever they are. So they can always be in touch with vendors, customers and *you*.

And because SDN Voice Mail Service is built right into your SDN network, there's no need to buy additional hardware or software. A definite advantage—as is our competitive price.

If your company spends \$30,000 or more per month on outbound long distance, consider AT&T SDN. With the voice mail service that gives *everybody* a voice. For more information, call your AT&T Account Executive or 1 800 443-4SDN, Ext. 811.

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Josephine C. Pigg, a former clerk with U.S. West Inc. in Grand Junction, Colo., was 14 months from retirement when her daughter, Tammie, 32, was diagnosed with cancer. The prognosis was not good, and Pigg decided to stay with Tammie in Denver rather than travel the 250 miles back and forth. At many other companies, Pigg would have been forced to leave. But her former boss, Penny Larson Hubbard, a director in the small-business services unit, figured out a way to keep Pigg working

while she was sitting at her daughter's bedside. With the help of a human-resources manager, Hubbard found Pigg a job with U.S. West in Denver. While it was a good deed, Hubbard wasn't just trying to be nice. "Jo is valuable to our company," she says. "If our employees have done a good job, we try and accommodate their situation."

Bosses such as Hubbard aren't typical. But in many companies, they're fast becoming the model of what a manager

TELECOMMUTING: CRAIG WATTS, A MEDIA MANAGER AT PACIFIC BELL, WORKS AT HOME—AND GETS TO SPEND MORE TIME WITH SONS CHRIS AND DAVID

ought to be. With record numbers of working women single parents, two-career couples, and an aging population, more managers are coming face-to-face with the problems and demands of a diverse work force. Now, the

question is: How can managers meet those demands and make sure the work gets done? "We know what it's like to sacrifice family for career and the reverse," says management guru Peter M. Senge. "Now, we're creating a middle

FAMILY

**COMPANIES
ARE STARTING
TO RESPOND
TO WORKERS'
NEEDS—AND
GAIN FROM IT**



ound—success at home and work—and everyone has work together. It's tough." Yet not all share the view that corporations must adapt to workers' needs. Many companies say they will not afford family-oriented programs in an era of heightened global competition. In fact, many are cutting such core benefits as health insurance and pensions. For all businesses especially, family-friendly policies can breed resentment among

CARING AND SHARING: FEL-PRO'S FRANK CASTRO (TOP) WITH DAUGHTER ELIZABETH AT DAY CARE; LEEANN BARRIEAU AND LISA TRUSCH (BOTTOM), WHO SHARE A JOB AT AETNA LIFE & CASUALTY

the workers who have to pick up the slack. And for every company that embraces a family-friendly working environment, there are others that merely say they do.

Increasingly, though, the evidence shows that managers who get results aren't tough but flexible. From Aetna Life & Casualty Co. to Alden Merrell

FLEXTIME: DUKE POWER'S CHERIE ASKEW-WEST (TOP), WHO WORKS THREE 12-HOUR SHIFTS A WEEK; NATIONSBANK PART-TIMER ANITA PARIS (BOTTOM), WITH DAUGHTER EMILY AND SON JENNINGS

Dessert Co., a cheesecake maker in Newburyport, Mass., they're helping employees resolve work and family conflicts through such arrangements as job sharing and compressed workweeks. In the process, they're increasing productivity, reducing turnover and absenteeism—and reinventing how work gets done. "It's time for business to get in step with this country's evolving social patterns," says Continental Corp. CEO

John "Jake" Mascotte. "Corporate America can't afford to ignore or pay lip service to the work-family agenda anymore."

Changing demographics and the growing emphasis on worker competitiveness are only some of the reasons that companies are becoming more responsive to workers' personal needs. At least 20 states already require employers to provide unpaid parental and medical leaves, and the rest will follow when the federal Family & Medical Leave Act takes effect in August. Even the Clean Air Act is prodding such large companies as Pacific Bell to get commuters out of their cars, in part by promoting telecommuting.

MORALE BOOSTER. Helping employees balance their personal lives with work seems like common sense: A worker who isn't distracted by worries over babysitting or caring for a parent is better able to focus on the job. But the benefits of a family-friendly environment go beyond making life easier for employees or boosting a company's reputation with recruits.

Recent studies of such companies as Johnson & Johnson and American Telephone & Telegraph Co. show that helping employees resolve work and family conflicts boosts morale and increases productivity. The J&J study found that absenteeism among employees who used flexible time and family-leave policies was on average 50% less than for the work force as a whole. It also found that 58% of the employees surveyed said such policies were "very important" in their decision to stay at the company—the number jumped to 71% among

employees using the benefits. At AT&T, the company found that the average cost of giving new parents up to one year of unpaid parental leave was 32% of an employee's annual salary, compared with 150% to replace the leavetaker altogether.

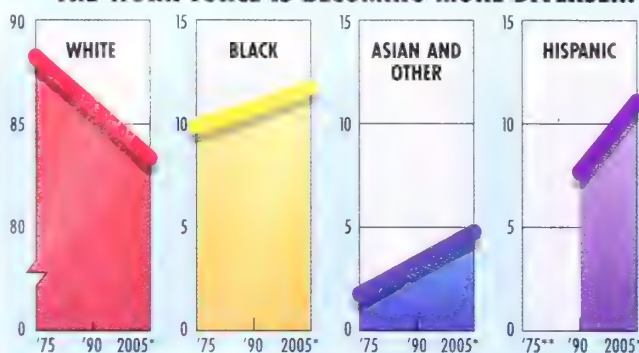
Some companies have been reluctant to offer these programs out of fear that workers would abuse them. But those fears have not been realized. At AT&T, 60% of new parents were back on the job within three months, and all but 10% returned to work within six months.

And at Fel-Pro Inc., a Skokie (Ill.)-

based auto-parts maker, University of Chicago researchers recently found a strong link between high benefit users and high performers—indicating, in part, that "workers perform best when they use and appreciate workplace supports." The researchers—who approached the 1,800-employee company because of its family-responsive policies—also found that the high benefit users were more active in team problem-solving and were almost twice as likely to submit suggestions for improving products and processes. "The search is pretty clear," says Ellen Galinsky, co-president of the New York-based Families & Work Institute, who did the studies of J&J and AT&T. "There's a cost to not providing work and family assistance."

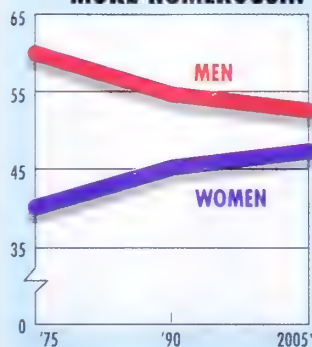
For many other companies, line man-

THE WORK FORCE IS BECOMING MORE DIVERSE...



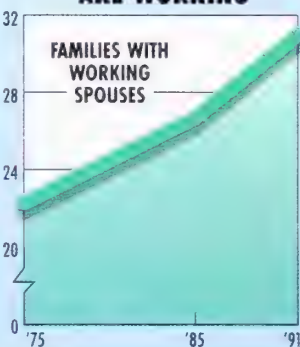
▲ PERCENT OF WORK FORCE (16 YEARS OLD AND UP)

...WORKING WOMEN ARE MORE NUMEROUS...



▲ PERCENT
*PROJECTED **NOT AVAILABLE

...AND MORE COUPLES ARE WORKING



▲ MILLIONS
DATA: BUREAU OF LABOR STATISTICS

BALANCING WORK AND FAMILY

TRADITIONAL ATTITUDES VS. FLEXIBLE MANAGER

- ▶ Fairness means treating all employees the same
- ▶ Must sacrifice personal needs to get ahead
- Flexibility is accommodation to specific employee
- ▶ Assesses performance largely based on hours at the office

- ▶ Seeks equitable, not uniform, treatment
- ▶ People perform better free of personal pressures
- ▶ Flexibility is competitive issue, and management tool
- ▶ Measures performance based on value added, not hours worked

QUALITIES OF INNOVATIVE MANAGERS

- ▶ Meets business objectives by helping employees meet personal needs
- ▶ Willing to take risks or take a stand
- ▶ Results oriented, not hung up on rules and procedures
- ▶ Respects the individual, but acknowledges and responds to differences
- ▶ Often gains top-level support, plus backing from peers
- ▶ Produces change within the organization that outlives the manager

DATA: FAMILIES AND WORK INSTITUTE, WORK & FAMILY COUNCIL

gers are the critical agents of change. From vice-presidents such as Duke Powell of Co.'s Sharon Allred Decker (page 88) to work-and-family champions such as Aetna's Michelle M. Carpenter (page 83), they're finding creative ways to solve common problems. The Conference Board's Work & Family Council, made up of about 30 top companies, calls such pioneers "breakthrough managers." It is studying the qualities that set such managers apart, including a willingness to focus on results, not procedures (table).

But whether it's an attorney at Aetna who oversees job sharers or a plant manager at Menlo Park (N.J.)-based Englehard Corp. who lets workers vote on their hours, the managers share one crucial trait: They get results by bending to their employees' needs—and demanding a high level of performance in return.

Plenty of managers reject such an approach. To them, flexibility means working nights and weekends, not going home every night at 6. Even some bosses who can afford to be more flexible don't feel they have to be. "It's still a buyer's market," says Barbara Provus, a Chicago-based executive recruiter. "The good jobs and the good companies can still get whoever they want."

NEW THINKING. That's certainly the case at Microsoft Corp. The nation's No. 1 personal-computer software maker has a hard-core work ethic: flexible but long hours and seven-day workweeks for those finishing big projects. Chairman William H. Gates III sets the pace, getting to work at 9 a.m. and often not leaving before midnight. At home, he often spends a few hours zapping computer memos to his staffers. The result: Most programmers follow suit by putting in 60- to 80-hour weeks, and, typically, not griping, especially given Microsoft's big bonuses and stock options. Employees also work such long hours because they're young and single—the average age is 30, only half the employees are married, and only half of the married workers have any kids.

But as Microsoft's work force ages, the company says it will have to look at parental issues more closely. Already, it is trying to get away from such long hours. "In the old days, the longer you worked, the bigger bonus you got," says Mike Murray, vice-president for human resources and administration at Microsoft. Now, the company is "encouraging" managers to look at pure performance.

At least Microsoft is honest about what it expects of workers. Other companies say they have family-friendly programs but tacitly discourage employees from using them. Even at companies that make a real effort, the ideal falls short of reality. For one thing, programs such as on-site child-care centers may be unavailable to most employees be-

MICHELLE CARPENTER

AETNA'S FAMILY-FRIENDLY EXECUTIVE



Michelle M. Carpenter is living proof that employees who ask for reduced schedules can get promotions. Five years ago, Carpenter, 34, began working 30-hour

weeks at Hartford-based Aetna Life & Casualty Co. after the birth of her first son. Two years later, she changed her schedule to a compressed week: 40 hours in four days. But that didn't stop Aetna from promoting Carpenter in September, 1991, from a senior consultant in its human-resources department to manager of its Work/Family Strategies unit.

The new job showed just how far Aetna had to go in the work-and-family area. Creating Carpenter's unit in 1988 was recognition of a serious problem. Aetna was losing hundreds of talented female employees—70% of its workers are women—who weren't returning after pregnancies. But for the unit's first three years, Carpenter says, employees only called "when they wanted information on child care."

GRUMLINGS. Since Carpenter took over two years ago, she has tried to shed the unit's "babysitter" image to reflect an employee's need to balance work and home. She has talked up the benefits of flexible schedules to business units and helped employees find job-share partners. When a manager nixes an employee's request for flexibility, Carpenter will often intervene

**CARPENTER WITH SONS
MATTHEW AND PETER:
SHE HAS HELPED AETNA
RETAIN FEMALE WORKERS
WHO USED TO QUIT AFTER
THEIR PREGNANCIES**

on the worker's behalf. But promoting flexibility hasn't been easy: Managers grumble about how such jobs are reported in their budgets, and non-Hartford employees say it's harder for them to get flex-time approval

than for those in the home office.

Carpenter's biggest success was convincing Aetna that it's cheaper to keep trained workers—even in limited schedules—than to hire new ones. Now, roughly 2,000 of its 44,000 employees work part-time, share a job, work at home, or work a compressed workweek. The results: Aetna estimates it saves \$1 million per year in not having to train new workers. And from July, 1991, to June, 1992, 88% of its workers who took family leave returned to work. An added benefit is good publicity. Aetna was named one of the top four "family-friendly" companies by the Families & Work Institute.

But Carpenter's work is far from over. "People have been resistant," says Leo Taylor, Carpenter's boss. Carpenter wants to "create a culture change" at Aetna about flex time. She also plans on using her experience in Aetna's offices in Denver, Syracuse, and Philadelphia to show that flexible schedules can work in far-flung business operations. Just don't look for her in the office on Fridays. That's the day she spends with her kids.

By Chris Roush in Hartford

cause of their location or size. SAS Institute Inc., a software maker in Cary, N.C., has two child-care centers with capacity for 328 kids—and a two-year waiting list on average for the company's 2,800 employees, most of them of child-bearing age. As for popular benefits such as dependent-care spending accounts, Lincolnshire (Ill.) consultants Hewitt Associates found that 95% of employees don't use them because of Internal Revenue Service rules.

"AT RISK." At cutting-edge companies where benefits are widely available, employees must be encouraged to take advantage of them. Corning Inc. has been committed to benefits such as flexible hours for years. But an employee survey nearly three years ago showed that

many corners of the company were only paying lip service to workplace flexibility: About 40% of senior managers were judged by employees as not supportive of work and family issues. "Here we had all these policies, but people were afraid to use them because they thought their careers were at risk," says Sonia S. Werner, work/life balance consultant at Corning. Part of the problem was that senior managers weren't experiencing the same concerns. Says Werner: "Ninety percent of our senior managers were males who had spouses at home taking care of the kids. But 75% of the staff were in dual-career households."

Corning and other companies are finding they have to teach managers why flexibility is good for business. And that

requires embracing a new way of thinking. For example, instead of linking job performance to the number of hours in the office, managers must evaluate employees based on their contribution to the company. Employees also must be taught that they have a role to play. And they must understand that flexibility means that not everyone will get the same treatment (table).

However flexibility is attained, viewing workers as individuals puts new demands on managers. No one knows this better than Brian G. Thiele, vice-president and manager of Bank of America employee-transportation programs, which subsidize workers for using car pools or mass transit. Thiele manages seven employees, including four in four different

SAM RIVERA

AN EASYGOING BOSS—AND A MASTER MOTIVATOR

Ten years ago, when Sam Rivera became an assistant foreman at 1,800-employee Fel-Pro Inc., a Skokie (Ill.) auto-parts maker, his supervisor said the secret to success was to be just like him. "He was really tough," recalls Rivera. "I said, 'My name is Sam Rivera. I have to be in my heart what it says to me to be.' At that moment, I made up my mind that I was going to be a different kind of manager."

For Rivera, 48, being himself meant giving factory worker Edwin Carrera three days of emergency leave so he and son Erwin could meet with Fel-Pro's on-site psychologist. Carrera needed help to extricate his son from Chicago's Latino gang culture, just as Rivera did with his eldest son, Sam, eight years ago. It meant finding another job for Pedro Hernandez, who wasn't able to operate a forklift truck, the job he was hired for. Rivera knew Hernandez, then 45, would have a tough time getting hired elsewhere. Hernandez is now one of his best punch-press operators, he says.

"PEOPLE WORK HARDER." Instead of acting dictatorially, Rivera tries to place himself in his employees' shoes. He gives his workers plenty of flexibility and discretion. "As long as the job gets done, that's the bottom line," he says. And 95% of the time, according to Rivera and the company, Rivera's unit exceeds its objectives. On June 2, for example, instead of producing

"AS LONG AS THE JOB GETS DONE, THAT'S THE BOTTOM LINE": RIVERA'S UNIT CONSISTENTLY EXCEEDS ITS PRODUCTIVITY OBJECTIVES



95 hours' worth of parts, Rivera's unit produced 112.

Rivera's management style also motivates workers to go the extra mile, they say. Carrera is so grateful Rivera helped rescue his son that in his spare time he has devised ideas—now being implemented—to increase machine productivity and safety. "People work harder in the department because of the way Sam is," says Carrera, who has worked for him for two years. "He makes you feel comfortable on the job."

Rivera says his philosophy is a result of his poor childhood in Puerto Rico. "I know what people have to do to survive," he says. Another factor is Rivera's own experience at Fel-Pro. Twenty-five years ago, when he had been with the company just three months, his wife, Elva, had their first child. He hadn't worked at Fel-Pro long enough for company insurance to cover their medical expenses, but Bob O'Keefe, the human relations manager, arranged to have insurance cover part of the hospital bill.

Juggling work and family requests isn't easy for Rivera, especially given his unit's diversity, say his workers and his supervisor, Ricky Justus. His 50 workers include 29 Latinos, 11 Caucasians, African-Americans, and 1 Asian Pacific Islander. There are 4 women and 4 men. Justus says that if Rivera "has a fault, it's that he hates saying no to special requests and disciplining. Rivera agrees. But he adds: "I'd rather be soft than be hard, because hard people are hated and can't accomplish anything."

By Ann Therese Palmer in Chicago

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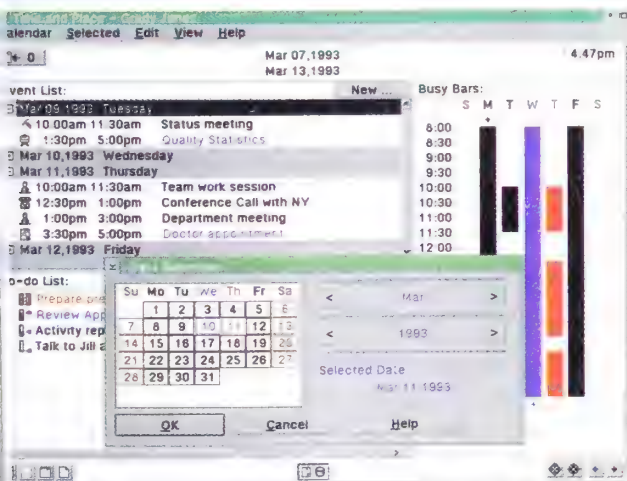
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offices who telecommute on a part-time basis. Thiele says his big problem is trying to reach workers during the day, reminding himself that "it's no worse than in the office when they go to lunch or if they worked in satellite offices."

Such inconveniences are well worth it. Before the telecommuting program started in March, Thiele's unit was typically three to five days late in sending checks to commuters. Now, it hasn't had any late payments, he says, because employees can work a whole day uninterrupted at home. Morale also has improved. Just ask Pam Centoni, who sets up car pools. A telecommuter one day a week, she also works a "9-80" schedule (80 hours over 9 days). Every other Monday, she either has the day off or works at home. "I ride my bike, go to the pool, or do errands," she says. "There are not a lot of lines on Monday."

SURVIVAL. When employees are on odd schedules, managers have to work around them. Kate Sullivan, an attorney at Aetna, is responsible for the day-to-day operations of a 280-person legal department. But if she wants to meet with her support staff, it must be on Wednesdays, which is tricky because she travels often. The reason is that her assistants, Lisa Trusch and Leann Barrieau, both mothers, are in a job share. Barrieau works Monday through Wednesday lunch, and Trusch works Wednesday through Friday. They keep in touch by phone and electronic mail: When one gets a message, it is automatically sent to the other. Without the job share, both women say they would have been forced to quit. While Aetna has to pay for 5½ days a week instead of 5, Sullivan, a mother herself, welcomes the schedule because "two heads are better than one on the job. They can bounce ideas off each other and can work on two separate projects at once."

For some managers, flexibility is a matter of survival. When Joseph Steinreich became plant manager of Engelhard's two Huntsville (Ala.) plants in 1981, he was given six months to turn the chemical plants around or see them closed. The plants had a 150% turnover rate, 18% product waste, and 22 people were injured so seriously that they couldn't come back to work. A big part of the problem, managers and employees say, was excessive absenteeism, largely among workers who had drinking and other problems. "There were some Friday nights we couldn't even run," says Sharon Hobbs, a plant superintendent. "It was horrible."

Steinreich began by focusing on employees' problems, both at work and at home. He also established an employee-assistance program and hired an on-site

'BUSINESS IS STILL STRUCTURED LIKE FOURTH GRADE'

JOHN MASCOTTE

Do business and family issues mix? John "Jake" Mascotte, CEO of Continental Corp., thinks they do. What's more, he believes companies that fail to balance the two may be jeopardizing their future. "So much of business is still structured like fourth grade," says Mascotte. He thinks results are better when employees have flexibility and freedom. And he's pushing Continental to prove him right.

Three years ago, Continental's management began studying just how flexible the New York insurer—with \$5 billion in revenues and more than 12,000 employees—really was. From focus groups, Mascotte learned that employees saw the company as fairly rigid—and that work and family conflicts often distracted employees from their jobs.

OUT OF CONTROL? As a result, Continental in early 1990 rolled out a series of family-friendly programs, including job-sharing and telecommuting. Continental also eliminated "occurrences"—the practice of tracking employee absences no matter what the reasons and using the results in performance reviews.

Mascotte's biggest challenge was getting management to buy on. Many managers worried that flexible rules

would give them less control, making it tougher to get the work done. "Frankly, I was skeptical," says David Bates, an assistant vice-president in Cranbury, N.J. "Who needs this? We need employees."

But Doreen A. Horvath, vice-president of Residual Markets Center, unit of Continental in Glens Falls, N.Y., needed no convincing. Of her 207 employees, 200 are now on an alternative schedule. Horvath says scheduling can be real pain. But, she says, the extra trouble is worth it. Since starting the new schedules 15 months ago, productivity has jumped 15%.

Mascotte is leaving implementation of his vision to managers such as Horvath. "We tried not to do anything so uniform that we would be substituting new rigidity for old rigidity," he says. That doesn't mean that work and family issues are optional concerns. Mascotte tracks

each department to see where flexibility is being achieved, and he evaluates managers partly on employee development. What about the bottom line? Although it's hard to quantify the results in dollars, Continental says it has halved its voluntary employee turnover rate to less than 5% a year.

By Lori Bongiorno in New York

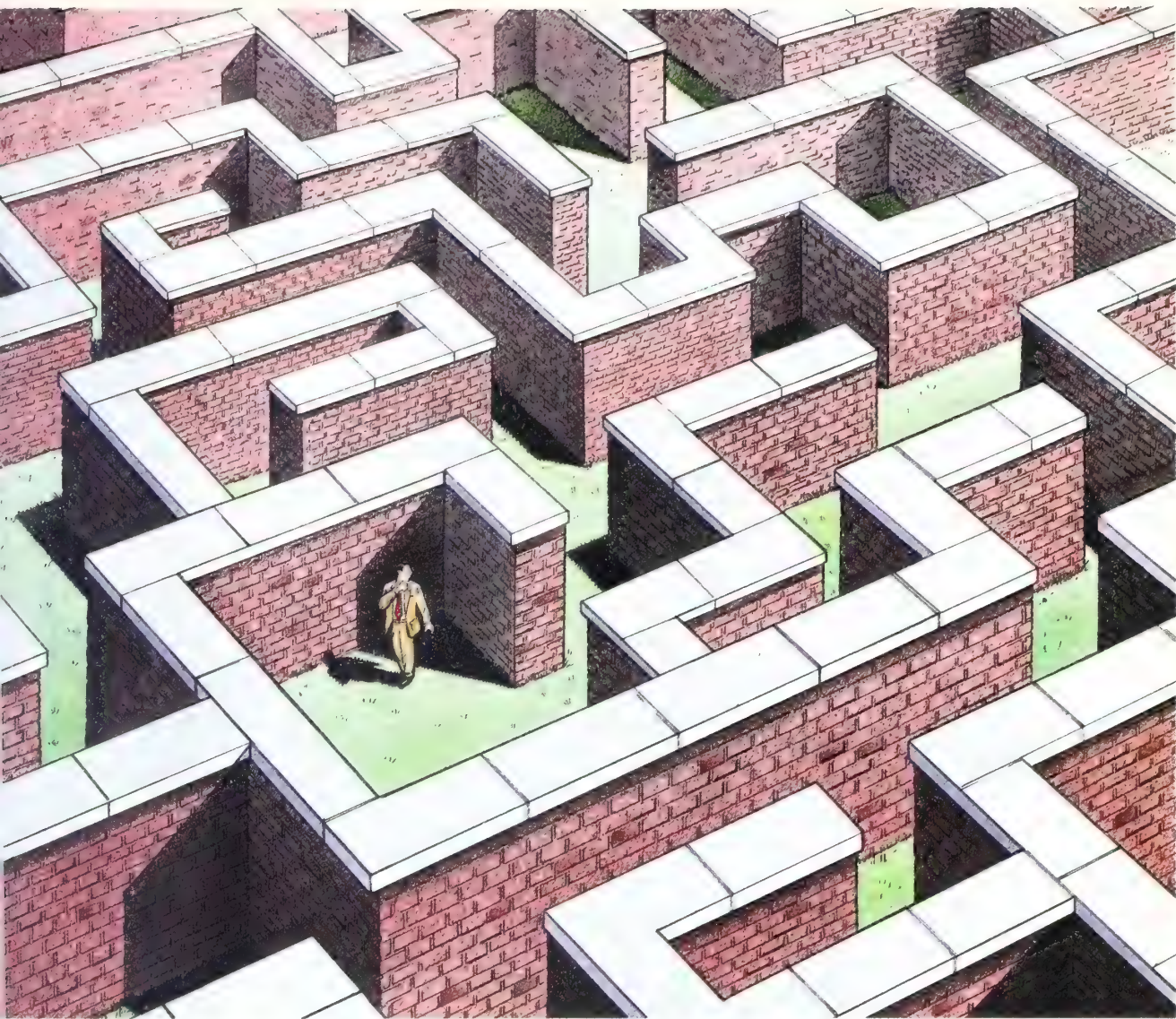


MAKING RULES THAT BEND CUTS DOWN ON STAFF TURNOVER, MASCOTTE FOUND. AND IT CAN BRING GREATER PRODUCTIVITY, TOO

psychologist, who is available one day a week and by beeper. Those changes laid the foundation for other innovations. In 1985, Steinreich allowed employees to vote on adjusting and distributing overtime and on setting lunch and break schedules. Recently, a majority of the plants' 290 workers voted to work four days of 10-hour shifts ending at 3 p.m., when their children get out of school. The earlier schedule means that Steinreich, who likes to sleep late, is up at 5 a.m. But he's satisfied: Absenteeism per worker has dropped from an average of 20 days a year to 3 days, and turnover has dropped to under 1% annually.

There's also less than 1% product waste and on Sept. 13, the plants will have had 10 years without a serious injury.

Other managers respond to workers' personal needs because a determined employee won them over. Karen Tanklow, a social worker in Salem, Mass., wanted a job-sharing arrangement after the birth of her son in August, 1990. But her bosses at Massachusetts General Hospital were skeptical that a crisis-oriented job such as hers could be split. Tanklow drew up a detailed proposal including how the job would be divided and who would cover what shifts, when. She even found a candidate of equal e



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perience. It also didn't hurt that Tanklow's record was superb.

The arrangement has since convinced Tanklow's boss, Evelyn Bonander, the hospital's director of social services, that job sharing can be done. But she wouldn't grant the option to anyone: "You need people who are willing to be flexible, not just in their schedules but also in their willingness to do something the way someone else would do it." Tanklow isn't totally happy with the way things worked out. Despite all her efforts, her partner got first crack at the schedule and Tanklow was passed over for a promotion. Bonander says Tanklow has taken on more responsibilities, which could lead to a management position down the road. "We are still learning to be less rigid," Bonander says.

Ultimately, flexibility for many managers means treating employees the way they would want to be treated. Sam

Rivera, assistant foreman at Fel-Pro, tries to put himself in his workers' shoes (page 84). For Tenneco Gas Co.'s Claude Cox, an information-service specialist, the goal is to maximize his employees' strengths, however involved he must become in their personal lives to do so. In late 1988, one of Cox's 10 employees was asking for more and more time away from the office during normal working hours. At first, he made up excuses but then revealed this: His partner was dying of AIDS, and he had tested positive for HIV, the virus that causes AIDS.

RAPID CHANGE. Cox rearranged the employee's schedule to give him time off during the day to care for his partner: The employee worked before and after hours instead. When he got sick, Cox cut his workload from 50 or 60 hours a week to 40, then to 30. His performance didn't suffer. After a year, he went on long-term disability—but not until Cox

made sure his salary lasted until the benefits kicked in. "You can have all the machinery in the world, but without the thing called an employee, you aren't going to make money," Cox says.

While bosses such as Cox may still be the exception in Corporate America, the business world is rapidly changing. Says Continental's Mascotte: "If we don't spend the time to create and foster a worker-friendly agenda, won't we contribute to the erosion of the very values we say we can't do without?" Most managers already know the answer. They realize that employees are also parents and children. Now the question for companies is no longer "Can we afford to offer these benefits?" but "Can we afford not to?"

By Michele Galen in New York, with Ann Therese Palmer in Chicago, Alicia Cuneo in San Francisco, Mark Marella in Boston, and bureau reports

SHARON ALLRED DECKER

'WE HAD TO RECOGNIZE THAT PEOPLE HAVE LIVES

In 1990, Duke Power Co. in Charlotte, N.C., gave Sharon Allred Decker a critical assignment: consolidate the customer-service functions of its 98 local offices and make the once-sheltered monopoly more responsive to customers. Decker jumped at the chance. She launched a service center that operates 24 hours a day, seven days a week. But Decker quickly realized that for Duke Power to be more responsive to customers, it had to become more responsive to employees, too. "I saw an opportunity to create an environment I wanted to work in," says the vice-president for customer service. "We needed to recognize that people have lives."

"THEY'RE ADULTS." Decker sought to bring about an atmosphere where the 500-person staff could handle family matters more easily. Her first move: getting her bosses to combine with other local employers, such as IBM and Allstate Insurance Co., to build a child-care center. She also campaigned successfully for a fitness center.

Early on, Decker got an earful from employees who hated working swing shifts: days one week, evenings the next, and then nights. So she came up



with 22 separate schedules and let workers bid on them yearly, based on seniority. Some are traditional weeks of five 8-hour days, but there also are weekly schedules of four 10-hour days and three 12-hour days. She did away with swing shifts, making it easier to arrange care for children—and parents: The staff is 75% female, 33 years old on average, and earns starting pay of \$19,000 a year. Decker

**BANISHING SWING SHIFTS
MADE ELDER CARE AND
DAY CARE EASIER TO AR-
RANGE: DECKER'S STAFF IS
75% FEMALE AND JUST 33
YEARS OLD ON AVERAGE**

dropped the requirement that supervisors—called coaches—had to give approval before staff swapped shifts. "They're adults," she says. "They know they're responsible for someone living here."

Decker, 36, knows her tough juggling work and family can be. At her last peer review, colleagues marked that she was working too hard—and not practicing what she preached. The mother of two boys, 7 and 4, and a 2-year-old daughter (an adopted son, 24, is no longer at home), says she got the message.

Decker's boss, Executive Vice-President William Coley, has nothing but praise for her work. Why not? The employee-to-manager ratio has gone from 2 to 1 to 20 to 1. And even though turnover in telephone-call centers nationwide usually runs at 40% a year, Decker says her center's attrition is running at only 12% annually—and 7%

of those transfer within the utility. Her moral is fairly simple: "As I treat my team, that's how they're going to treat the customer."

By Chuck Hawkins in Charlotte, N.C.

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THE NEW, IMPROVED MONEY LAUNDERERS

Sophisticated schemes are washing up to \$300 billion a year

For most of its first five years in the public spotlight, Orexana Corp. looked like a typical fledgling company. The Miami-based precious-metals dealer was founded in 1984 and began turning a profit five years later. By 1989, it had annual revenues of more than \$170 million. But in November, 1991, government prosecutors dropped a bombshell on Orexana investors: They charged that much of the company's revenues had come not from metals trading but from laundering up to \$30 million a month in profits from illicit drug sales. What's more, the feds say, Chairman Jose Duvan Arboleda-Gonzalez, 47, fled to his native Colombia to escape arrest on charges of masterminding a laundering network that stretched from Providence, R. I., to Los Angeles.

Orexana, which has changed its name to Advent Technologies Inc. and moved into medical consulting and testing, settled the case against it by agreeing to pay a \$700,000 fine. Current company officials didn't return calls, and investigators say Arboleda remains a fugitive in Medellin, Colombia. But to government investigators, he symbolizes a dangerous new wave of money laundering. **"SHADOW" BANKING.** Gone are the days when drug traffickers brazenly walked into banks lugging suitcases bulging with cash. Thanks to a 1986 federal law that requires banks and other financial institutions to report currency transactions of \$10,000 or more, launderers are developing new Byzantine and harder-to-detect schemes to wash cash, many of which bypass banks. Current ploys involve everything from dummy corpora-

tions using phony invoices to a kind of "shadow" banking system of check-cashing outlets and issuers of money orders. Drug dealers and other criminals now launder as much as \$300 billion annually through the nation's financial system.

Even enforcement of the 1986 law has become spotty. Reports on millions of legitimate transactions each year are starting to overwhelm the government's capacity to trace the trail of illicit funds. And while roughly 100 nations have made money laundering a crime, launderers are being welcomed into formal economies. East bloc nations desperate for hard currency. What's more, ratification of the North American Free Trade Agreement should make cross-border money changes even easier. "The speed through which you can move money around the world with electronic fund transfers makes it difficult to trace launderers," says Dennis Lynch, dean of the University of Denver Law School.

Phony or convoluted business deals are among the major ploys of launderers.



IN A TEXAS BORDER TOWN, DOZENS OF CASAS DE CAMBIO, TINY MONEY-EXCHANGE SHOPS, LINE THE STREETS

Government agents claim that while they can't stop the flood of illicit cash, they have made life more difficult for the launderers. The Drug Enforcement Agency estimates that the Colombian drug cartels now spend 23% of their profits on laundering, up from 6% in the late 1980s. "We're holding a line in the sand somewhere," says Brian M. Bruh, director of a special intelligence-gathering unit within the Treasury Dept.

But others say the Feds' antilaunching campaign has been a failure. "Money launderers seem to be operating freely without great risk of exposure," says House Banking Committee Chairman Henry B. Gonzalez (D-Tex.), whose panel is reviewing the money-laundering laws. "The federal government does not yet have a handle on how to deal with [the problem]."

these days. John S. Zdanowicz and James J. Pak, two researchers at Florida International University, recently used U.S. Customs Service data to analyze the import and export flows of nearly 30,000 products over a 12-month period ending in November, 1992. They turned up scores of ostensibly legitimate transactions that could well represent money-laundering deals. In one such deal, emeralds were imported from Panama at \$975 a carat—more than 22 times the world average price. In another, raw cane sugar from Britain came into the U.S. at \$1,407 a kilogram, vs. the world price. By buying at inflated prices, U.S. launderers can move illicit funds abroad much faster.

Orexana used a slight variation of this technique, according to Keith Prager, an assistant Customs special agent in

i. The company imported gold from
livia, and metals dealers in Los Ange-
New York, and Rhode Island would
cash from cocaine sales to buy the
precious metal. Arboleda would then
p the money out of the country into
Colombian bank accounts. But the gov-
ernment suspects that many of Orex-
i's imports were really scrap silver,
d, or other metals painted to pass as
d. Other companies appear to use
ilar methods: Customs says U.S.
lers reported imports of 214,000 troy
ices of gold from Bolivia in
0—or 129% of Bolivia's entire
d production that year.

STED. Sometimes transactions are
omplete shams, with money—but
products—changing hands. As
t of a federal sting, undercover
nts posing as launderers were in-
acted by kingpins of the Cali and
dellin cartels to set up leather-

ds wholesalers
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The traffickers
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at coups are rare, however, partly be-
se of the vast number of other op-
is money launderers have for evading
government's surveillance system.
reasingly, launderers are turning to
more than 50,000 nonbank providers
financial services, which include
ck-cashing services and such money-
nsfer agents as Western Union.
se outfits are supposed to file cur-
cy-transaction reports, but unlike
ks or securities firms, such business-
are rarely checked by authorities to
ke sure they are complying. Western
on, for one, says it reports hundreds
suspicious transactions to the govern-
nt each month. But according to a list
vided by the Senate Permanent Sub-
committee on Investigations, Western
on facilities were used in several in-
nces of money laundering, albeit
hout Western Union officials' knowl-
e or consent.

n southern border states, hundreds of
alled *casas de cambio* and *giro*
ises—mom-and-pop operations that

exchange currencies and wire money
abroad—have sprouted like daisies. Cre-
ated during the 1970s to change curren-
cy for travelers, these exchange houses,
say government officials, have become
refuges for laundering. In border towns
such as El Paso and Brownsville, dozens
of *casas de cambio* line the streets.
Some, no larger than phone booths, sit
on truck beds and shift locations every
few days. They take in dirty cash and
exchange it for money orders, travel-
ers checks, or clean money.

This technique has spread far
beyond the U.S.-Mexico border.
In New Jersey, state investiga-
tors have been frustrated in their
efforts to rein in the rapidly
growing number of inner-city
check-cashing services, some of
which are reputed to have strong
ties to organized crime. State offi-

phisticated schemes, some launderers
are now finding that the federal laws on
reporting large cash transactions are ac-
tually helping them avoid detection
when they deposit cash in banks. The
number of reports filed by the banking
industry alone has climbed above 9 mil-
lion a year, and the data base now con-
tains 60 million records. According to
government sources, Treasury investiga-
tors simply lack the computer power to
scan the data for suspicious behav-
ior. Now they mostly just check
bank-account records for traffickers
and launderers already under sur-
veillance. The government uses the
reports "to go back and provide writ-
ten documentation of something we
know to be true from other sources,"
says Gregory D. Meachem, superviso-
ry special agent for the Federal Bu-
reau of Investigation.

Some members of Congress fear
that the impending
NAFTA pact could
make tracking
money launderers
even more diffi-
cult. A recently
declassified gov-
ernment report by
a U.S. intelligence
officer in Mexico
suggests that
Mexican smug-
glers, working
with Colombian
drug cartels, are
starting to set up
factories, ware-
houses, and truck-
ing companies in
Mexico to exploit
what promises to
be a flood of

cross-border commerce expected under
NAFTA. Representative Gonzalez, an op-
ponent of NAFTA, believes that the
smugglers will find it easier to evade
reporting requirements by working
through Mexican banking institutions,
which are not subject to antilaundering
disclosure laws.

The Banking Committee is considering
ways to strengthen money-laundering
curbs. One possibility: paring back re-
porting requirements for banks. By elim-
inating such requirements on clearly in-
nocuous transactions, enforcement
agencies may be able to monitor suspi-
cious money flows more easily. But if
the last seven years are any guide,
the drug cartels will find ways to skirt
any new laws. Victory in the battle
against money laundering, it's becoming
all too clear, may be as costly and elu-
sive as success in the war against illegal
drugs.

By Dean Foust in Washington, with Gail
DeGeorge in Miami

FIVE WAYS CASH GETS WASHED

FRONT COMPANIES Drug kingpins set up phony companies and draw up fake invoices
that allow cash from drug operations to be disguised as proceeds from legitimate sales.

INSURANCE BROKERS Crooked offshore brokers accept dirty cash from drug traffickers and
buy large annuities from U.S. insurers. Then they cancel annuities, receive refund checks.

MONEY TRANSMITTERS Launderers purchase money orders that are deposited in a bank
or wired across the country to an accomplice who may not need identification to cash them.

POSTAL ORDERS Launderers purchase postal money orders, then redeem them through
foreign banks. Postal money orders are exempt from bank cash-reporting rules.

CASAS DE CAMBIO These currency-exchange shops accept cash from launderers and
deposit it in commercial banks. When the banks file federal reports on the deposits,
the *casas de cambio*, not the launderers' names, are listed as depositors.

DATA: BUSINESS WEEK

cials also are investigating
some garment manufacturers who are
using check cashers to write large
checks to themselves and to cash in busi-
ness receivables from garment sales,
rather than going through banks where
the transactions might be reported to
the feds.

POSTAGE DUE. Some money launderers
are so bold that they have made the
U.S. Postal Service an unwitting accom-
plice. Last January, federal officials
cracked a Panamanian-linked laundering
ring that for over 18 months bought
\$200 million in postal money orders from
scores of New York state post offices—
all for amounts of \$10,000 or less. They
then redeemed them in Panamanian
banks. Most of the orders confiscated by
the Feds bore the symbols of drug car-
tels, such as an "E" within a shield. The
Feds caught on to the scheme after no-
ticing an inordinate number of money
orders being redeemed via the Colon
Free Zone in Panama.

Although they're developing more so-

AS LONG BONDS GET LONGER, DO THEY GET RISKIER?

Maybe. But the recent 50-year issues have been gobbled up

A 50-year bond, you say? Hmmm. In 1943, a ticket to see *Casablanca* cost a quarter, and 30-year Treasury bonds paid out 2.5%. In 1993, admission to *Jurassic Park* is \$7 or more, and the long Treasury yields 6.8%. In 2043, we may be creating our own movies via virtual reality and... well, who knows where interest rates will be? Nevertheless, a small yet growing group of major corporations is hawking 50-year bonds to lock in today's (relatively) low rates.

And the market, led by big institutional buyers, is snapping them up. Texaco Inc. trotted out \$150 million in 50-year securities in March—and demand was so voracious that the oil company expanded the issue to \$200 million. What's the attraction? Investors find the long, long bonds good matches for long-term policy liabilities. Mutual funds like it that 50-year corporates yield about a percentage point over 30-year Treasuries. Another major lure is the strong credit quality of the five superlong issuers thus far (table): Boeing, AA; Conrail, A; Ford, A; the Tennessee Valley Authority, AAA; and Texaco, A-. The issuers are all industrial outfits that need big bucks to spend on plants and equipment, which are meant to last a long time: Consolidated Rail Corp., for instance, shelled out \$491 million last year to buy rolling stock and overhaul track.

MORE TO COME. Although no other 50-year issues have been announced to date, Wall Street expects more to appear as long as rates stay low—a pretty good bet for the next few months, absent any fresh inflation scares. "There's a natural market developing for longer-term issues as interest rates decline," says David A. Jaeger, vice-president and treasurer at Boeing Co., which two years ago cast off its long-standing fear of long-term debt and embarked on a \$1.8 billion spree of ever-lengthening maturities, culminating this spring when it marketed \$175 million in 50-year bonds.

Since corporate bonds are linked to Treasury yields, the Clinton Administration's plans to reduce long-term federal borrowing and increase lower-payment

short-term debt—thinking this will save on interest outlays—likely will spawn more 50-year corporates. Reason: The action should flatten the yield curve, meaning that short-term Treasury rates should rise and make corporations less eager to issue short-term paper. Long-term Treasury yields, meanwhile, should drop some more due to scarcer supply, allowing companies to issue 50-year bonds at still lower yields. Says John A.



GOING FOR THE LONGEST BOND

BOEING Planemaker, once afraid to borrow long-term due to industry cyclicality, issued \$100 million 50-year private placement last year and made \$175 million public offering this spring.

CONRAIL Railroad line hopped aboard and floated \$250 million in 50-year paper in May. Attraction is same as for other long issuers: locking in today's low rates.

FORD MOTOR Now that the No. 2 car company's fortunes are improving, it unveiled issue for \$200 million in half-century bonds on June 10.

TVA Huge federally backed power authority used to float government-guaranteed debt but disliked restrictions such as ban on call provisions. In April, 1992, became first modern-day U.S. issuer of 50-year bonds, raising \$1 billion.

TEXACO Until rates began dropping, average maturity of oil concern's debt was five years. In March, weighed in with a \$200 million half-century offering.

DATA: COMPANY REPORTS BUSINESS WEEK

McKelvey, Conrail's comptroller: "I'm happy to do the opposite of what the government is doing."

Super-long-term corporate debt is a new phenomenon. In the 1800s, railroads sold paper with 100-year maturities; one line, now owned by Canada Pacific Ltd., still pays 4% on a 1,000-year bond. With long-term rates remaining comfortably low for much of this century, the main rationale for going long is to do with matching debt with assets expected to last decades, such as bridges and track, not with locking in low coupons in case rates shot up. Public utilities, with big needs for infrastructure spending, took over from railroads as the lone private issuers of debt running more than 30 years.

Then came the dread inflation of the 1970s, and the Federal Reserve pumped up rates to cool off prices. Investment-grade companies were paying double-digit interest. Once the Federal Reserve started to ease rates lower to combat the economic slowdown, though, chief financial officers began thinking about locking in low coupons for long periods. In 1989, TVA sold a \$2.5 billion 40-year issue. In April, 1992, the power authority became the first modern-day U.S. issuer of 50-year bonds, floating \$1 billion worth. Boeing followed shortly thereafter with a \$100 million private placement of 50-year bonds and publicly floated \$175 million of the long stuff earlier this year.

No doubt, half-century paper is a good deal for the issuers. They pay at most, a quarter-point more than for 30-year corporate bond and don't have to fret about coughing up the principal two whole decades longer. And then, of course, comes the question of low rates. To issuers, says Jessica Palmer, a managing director and co-head of capital markets at Salomon Brothers Inc., "It's very much like, 'Let's lock in these rates for as long as we can get away with it.'" Three of the 50-year issuers are sufficiently confident that rates are at near their low point that they didn't include provisions to call the bonds before maturity. Only Texaco and the TVA provided that at 20 years, if rates are even lower, they can pay off principal.

BIG CHANGES. But is the 50-year security a wise move for buyers? "Holders are subject to all sorts of risks," warns Daniel J. Donoghue, group vice-president at Duff & Phelps Credit Rating Co. "Vast technical changes may cause product obsolescence. That won't help issuers meet their obligations." John Hancock Mutual Life Insurance Co. is one institutional buyer that refuses to touch 50-year corporates. F. Allen Weisenfluh, Hancock

-president for corporate finance, is how easily business reverses can an issuer's credit rating and ques- s whether some borrowers will be and in the coming century.

While the quintet of ultralong issuers existed in 1943 (Conrail was created in the wreckage of Penn Central in early 1970s), their business environment has changed radically. Boeing, for instance, was overwhelmingly a military aircraft during World War II, when it built B-17 Flying Fortresses. Now, 80% of the company's revenue comes from commercial jetliners, which were Buckle's pipe dreams in the 1940s. That's true in an era of declining defense budgets. Just the same, commercial aircraft companies have slammed Boeing about a decade.

ALLS AROUND. All of the demi-century issuers, in fact, have been buffeted by calamity or another, whether economic downturns, foreign competition, legal woes. And there's no reason to believe they and others will be exempt from a future ill fortune. Texaco, whose earnings dipped during the recession, is no worse still in the late 1980s. The giant went through bankruptcy as a result of a huge damage award from attempts to meddle with Pennzoil's bid to take over Getty Petroleum Co. Ford Motor Co., which suffered years of red ink before a respectable showing in 1993's first quarter, is bragging that its hot-selling lines such as Taurus keep the good news rolling. Conrail lost money in 1991 and returned to profitability only last year. Even the perennially backed TVA went through tough times: In the mid-1980s, skyrocketing costs from the authority's botched nuclear-plant program proved financially devastating.

The TVA and the other members of the Year Club at least are in pretty good shape now. But lower-ranked credits—those below A—need not apply for half-price financing, thank you. "No way would I see General Motors going out 50 cents," says Conrail's McKelvey. Standard & Poor's Corp. downgraded GM from A- to BBB+ in February. Better than its whose future is uncertain also away from the longest borrowings. AA-, undergoing troubles from falling markets for its mainframe computers, issued 30-year paper in 1989 and accepted for an offering of 20-year debentures earlier this year, has stuck with 50-year debt.

One thing's certain about 50-year bonds: Most of the people buying them won't be around to collect the principal. You can only pray that the issuers will be there to pay it.

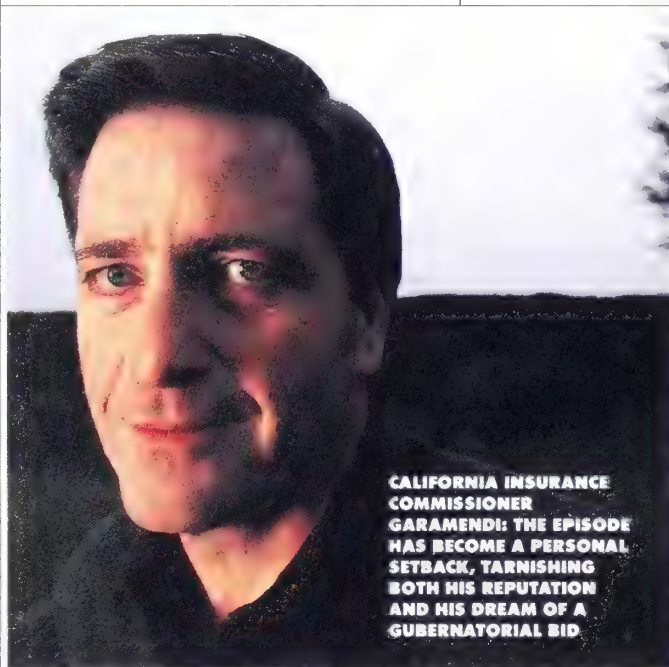
by Larry Light in New York, with Tim Hart in New Haven, Chuck Hawkins in Santa, and Dori Jones Yang in Seattle

IN CALIFORNIA, A BOTCHED BAILOUT?

Critics say the Executive Life debacle is hurting policyholders

They were an odd couple from the beginning. Leon Black, a former head of mergers and acquisitions at Drexel Burnham Lambert Inc., had made a fortune helping Michael R. Milken sell billions of dollars in junk bonds in the 1980s. John Garamendi, California's politically ambitious insurance commissioner, rode into office in January, 1991, on a populist wave of anti-big-busi-

ness sentiment, railing against the evils of junk bonds. But by the spring of 1991, Black and Garamendi found themselves allied in a \$3.5 billion deal to save one of Milken's largest clients, faltering Executive Life Insurance Co.



CALIFORNIA INSURANCE COMMISSIONER GARAMENDI: THE EPISODE HAS BECOME A PERSONAL SETBACK, TARNISHING BOTH HIS REPUTATION AND HIS DREAM OF A GUBERNATORIAL BID

ness sentiment, railing against the evils of junk bonds. But by the spring of 1991, Black and Garamendi found themselves allied in a \$3.5 billion deal to save one of Milken's largest clients, faltering Executive Life Insurance Co.

Two years after its seizure by Garamendi, Executive Life remains unresolved and its policyholders unreimbursed. Most of the public attention on the episode has focused on Garamendi and a series of what critics claim were miscalculations that prolonged the rescue unnecessarily. "I'm not into hindsight," says Garamendi. "It was the path that worked at the time." But what's most remarkable about the Executive Life saga, and what has largely avoided notice, is the fact that Black and his management firm, Lion Advisors, have been able to insinuate themselves into the rescue process so intimately that at times

they almost seem more agile in dealing with the unfolding events than Garamendi. Garamendi ended up with his reputation tarnished and his dream of running for governor in 1994 clouded. Certain Executive Life policyholder groups are likely to receive millions of dollars less than originally anticipated. But Black's adroit maneuvering enabled him and his French client, Altus Finance, a subsidiary of Crédit Lyonnais, to reap what has turned into a billion-dollar bonanza: Executive Life's portfolio of junk bonds. Black and his partners have declined to comment publicly.

LION'S SHARE. Lion Advisors was involved with Executive Life months before Garamendi came on the scene. In December, 1990, news reports began to circulate that Executive Life would soon fail. Craig M. Cogut, a former Drexel lawyer and Black's key strategist at Lion

Advisors, paid a call on then-First Executive CEO Fred Carr. Would Carr be interested in selling some of the nearly \$9 billion in junk bonds on the company's balance sheet? Carr liked the idea and started talking deals with Cogut.

But Cogut wasn't the only one to see an opportunity. Garamendi, California's first elected insurance commissioner, saw a chance to make his mark. In April, 1991, he ordered Executive Life's seizure. Yet Black's team had been discussing restructuring possibilities for Executive Life with the new commissioner since February. To spur other bidders, Garamendi over the next four months negotiated with Cogut to come up with a bid against which all future bids for the ailing insurance company and its junk bonds were to be judged. Garamendi insisted that any bid for the junk bonds had to be accompanied by a bid for the

insurance operations. There is no evidence that Black helped engineer Garamendi's strategy, but both moves entrenched his group as the front-runner.

To Garamendi and his crew, the junk-bond portfolio seemed a time bomb, as the junk-bond market was sinking fast. But where Garamendi envisioned disaster, Black and Cogut knew there was potential value—plenty of it—because their outfit had firsthand knowledge of many of the junk-bond issues. Garamendi's advice came from a team led by money manager GB Capital Management Inc., a Mill Valley (Calif.) group criticized by some Wall Streeters at the time for an alleged lack of junk-bond experience, a criticism GB Capital refutes.

Black's bid was elegant in its simplicity: Altus would pay close to \$3 billion to buy all of the junk bonds, which would be managed by Lion Advisors for a percentage of the profits. And to provide policyholders with an estimated 95¢ on the dollar, a European group led by little-known French insurer Mutuelle Assurance Artisanale de France (MAAF) would buy the remaining insurance operations and infuse \$300 million in fresh capital into the company. Cogut's team arranged for Altus to lend most of the money to the MAAF group for the capital infusion, with Crédit Lyonnais providing a formal guarantee of that payment.

FEW PLAYERS. Garamendi's decision to float Black's already structured bid, ostensibly to streamline the process, backfired. A number of potential bidders contacted by New York-based Blackstone Group, Garamendi's investment bankers, weren't interested in playing, in part because they didn't want to compete with a group that had been combing the insurer's books for months and had a deal already, in effect, O.K.'d by the commissioner.

Not everyone was put off by Garamendi's approach to the sale. In August, the National Organization of Life & Health Guaranty Assns. (NOLHGA), an association of state guaranty funds, along with groups that included financier Richard Rainwater, insurance executive Eli Broad, and San Francisco-based investment firm Hellman & Friedman, announced that they wanted to bid.

Garamendi pushed aside the French bid and tentatively tapped NOLHGA's proposal. But he placed several conditions on approval of their plan. Arthur O. Dummer, chairman of the Executive Life Task Force of NOLHGA, says he now thinks "the conditions were designed not to be

met." He contends that Garamendi only picked NOLHGA's plan to force up the price being offered by the French and other groups. Garamendi responds that "we did not use NOLHGA as a stalking horse."

The bid by NOLHGA shook up the Black camp. When it appeared that the NOLHGA bid had won, Cogut frantically tried to work with the group to get some role for his French client in the deal.

EXECUTIVE LIFE'S BATTLE FOR LIFE

APRIL, 1991 California Insurance Commissioner John Garamendi seizes near-insolvent Executive Life Insurance.

AUGUST, 1991 Garamendi tentatively accepts bid from French investors led by Altus Finance, a subsidiary of Crédit Lyonnais. But he invites others to top the bid.

OCTOBER, 1991 Garamendi tentatively accepts bid from association of state insurance-guaranty funds.

NOVEMBER, 1991 Garamendi rejects state guaranty-fund bid. He reopens bidding, then accepts new French bid.

MARCH, 1992 Sale of Executive Life's junk-bond portfolio to Altus is completed, raising \$3.25 billion.

MARCH, 1993 After hearing challenge by Executive Life bondholders, the California court of appeals rejects details of the French plan, rules it unfairly restricts what bondholders can recover.

JUNE, 1993 State court opens hearings on a revised French plan in downtown Los Angeles. Angry policyholders drop their criticism, while bondholders raise further objections.

DATA BUSINESS WEEK

Garamendi, though, rejected the NOLHGA bid on the grounds that the insurance group was unable to meet his conditions. He opened the bidding once again, and 10 days later, Black's group won by upping their offer for the bonds by \$250 million and getting MAAF to sweeten its half of the deal by an estimated \$150 million.

The additional cash, though, paled beside the profits that Black's group reaped. In March, 1992, the Black group acquired Executive Life's junk portfolio for \$3.25 billion. Thanks in part to a rally in the junk market, the portfolio, according to some estimates, has grown by as much as \$1.3 billion, a gain people close to Black dispute.

The Black group's effort

to complete the deal was hampered by court battles involving holders of \$3 billion in municipal bonds linked to Executive Life. The proceeds of the muni offerings had been invested in Executive Life guaranteed-investment contracts, or GICs. In his quest to get the most money for policyholders, Garamendi attempted to freeze out the bondholders. Attorneys acting on behalf of the muni-GIC holders filed suit. Instead of working out a settlement with the muni-GIC holders when it appeared that he had the upper hand in court, Garamendi stood fast.

A year later, the California Court of Appeal rejected the French bid, ruling that the muni-GIC holders were to be treated like any other policyholder. That meant giving them a cut of the \$7.2 billion pie of assets that was to be divided up among the regular policyholders, thus reducing what some policyholders had been promised.

NEW ENTICEMENTS. These maneuvers ended up posing big problems for the Black forces. Buoyed by their victorious attorneys representing the muni-GIC interests filed a motion to undo the \$3.25 billion sale of the junk-bond portfolio. As the legal wrangling has dragged on, Cogut has had to scramble to hold the deal together. Since August, 1991, three of the original seven members of the MAAF Group have dropped out over frustration with the delay. Cogut has burned up telephone lines to Europe, keeping an increasingly impatient MAAF from backing off as well.

To regain the initiative, the Black forces submitted a new bid for Executive Life on June 9. The new plan offered an additional \$80 million in potential settlement payments and promises that policyholders will get all profits—currently about \$150 million—from a portfolio of largely illiquid assets still on Executive Life's books. Under the previous plan, those dollars went to the MAAF group. These enticements forced a number of the plan's former opponents to sign on grudgingly to the deal.

The Black group has also headed off another potential roadblock to the deal. Eli Broad, chairman of Los Angeles-based insurer SunAmerica Inc., notified Garamendi in early June that he might make a bid. Rather than risk further delay or a complete collapse of the deal, Black cut Broad in for a 33% stake in the new insurance holding company.

Hearings on the sweetened French bid are now being held in Los Angeles. It is far from clear how Garamendi, Executive Life's policyholders, and the many other interested parties will emerge from the fracas. Putting one's money on Black, though, is probably not a bad bet.

By Amy Barrett in Los Angeles



COGUT SAW AN OPENING

GENE G. MARCIAL

SURPRISING PHYSIQUE OF HERCULES

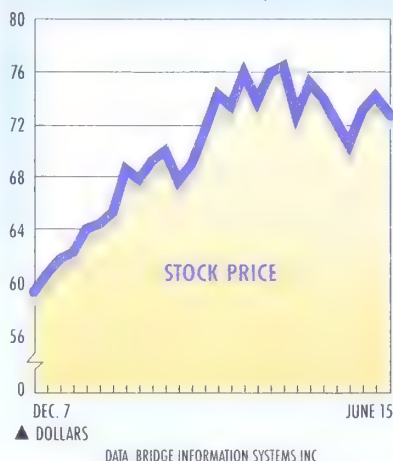
Hercules is flexing its muscles. As the producer of specialty chemicals and rocket motors shed fat and boosted earnings, its share price has taken wing, climbing from under 60 last December to 73 on June 15. What's more, some pros think the upside momentum has just begun. At first glance, that's hard to believe. Hercules produces a line of products that caters to mature markets, including paper and chemicals. The company is big in water-soluble polymers and coatings used in paints, adhesives, and cosmetics—hardly growth areas in a time of tepid economic expansion. And the chances of the military spending budget increasing are rather slim. But the “big difference is in Hercules’ management, led by Chairman and CEO Tom Gossage, has directed its focus toward boosting shareholder value,” says Arnold Schneidler of A. R. Schneidler, a New York investment firm. He sees “the stock hitting 90 in a year, based on what Gossage is trying to achieve.”

For one thing, the company has been jettisoning off certain assets, adding to an already healthy flow of excess cash. Its cash, after operating expenses and dividend payments, is being used to buy back 10.5 million shares. Some 10 million shares have already been purchased.

SLIMMING FAT. John Wyman, a portfolio manager at Schneidler, figures that Hercules’ excess cash flow will total about \$110 million, or \$2.50 a share, this year. In addition, the company is expected to receive in the third quarter reimbursement of some \$250 million, or nearly \$6 a share, from the U. S. Air Force on its Titan IV solid-rocket-motor contract. “We expect all this cash to be applied toward the repurchase of shares,” says Wyman. Over the next months, Hercules intends to repurchase some 3.5 million shares, reducing total shares outstanding to 40 million from 43.5 million.

At the same time, Gossage and his management team have been applying cost-management strategies. Since 1991, some 22%, or 4,500 employees, have been let go. The next cuts will be in their European operations, Gossage analysts recently. The company is

WILL HERCULES FIND NEW STRENGTH?



targeting a return on equity of 14% by 1995, up from this year's 11%.

Wyman sees profits jumping to \$4.30 a share this year and to \$5.10 in 1994 from 1992's \$3.69 and 1991's \$2.92. “These results can be achieved by margin expansion, share repurchases, and restructuring,” he says. The next unit Hercules may sell, says Wyman, is the money-losing aerospace business, which accounts for 15% of sales.

TEMPORARY HELP— AT A GOOD PRICE

In a takeover, the buyer's stock usually tumbles when the deal is announced. To some pros, that situation sometimes presents an opportunity to buy shares on the cheap. That's how they now see Olsten, the nation's third-largest temporary-help provider.

Olsten surprised the Street on May 10 by announcing a takeover of Lifetime, a major provider of health-care services in the home, with revenues of nearly \$1 billion. Olsten agreed to pay \$33 a share in stock for Lifetime, which had been trading on the Big Board at 24 a share, and Lifetime's stock price soared. Predictably, Olsten's shares fell—from 27 to 24 that day. They are now trading at 22.

“We think the stock has become very cheap at its current price,” says a portfolio manager at IDS Financial Services, which owns 4.5% of the stock. “We liked Olsten before the merger, and we like it even more now with the impending acquisition of Lifetime.”

Analyst Judith Scott of Robert W. Baird in Milwaukee says the Olsten-

Lifetime combination will be “very positive” for the temporary-help provider. The merging of operations, which will almost double Olsten's revenues to a combined \$2.6 billion, should immediately add to earnings, she says.

She sees Olsten's earnings rising from 1992's 87¢ to \$1.15 a share this year and \$1.50 in 1994. Additional opportunities, such as paying down Lifetime's debt with Olsten's cash and eliminating work duplications, could increase earnings further, says Scott.

The merger will make Olsten “by far the nation's largest, most geographically diverse home health-care company,” says the analyst.

A ZOE-KIMBA PLAY

All the hullabaloo over nannies after President Clinton nominated Zöe Baird and then Kimba Wood for Attorney General has called attention to the enormous demand for such caregivers. On Wall Street, there is smart money that thinks the publicity over the nanny problem presents an opportunity to invest in at least one company: Canterbury Educational Services, a federally accredited vocational school chain. Some pros have started buying its shares, now trading at 5%.

Canterbury has 10 schools located in California, Florida, Nevada, New Jersey, and Pennsylvania offering training in such areas as medical technology, nursing, and word-processing. Last October, Canterbury acquired a school for nannies, the American Nanny College in Montclair, Calif., which posted revenues of \$750,000 last year. But over the next 24 months, “we will expand the nanny school into our other schools in five states, and we project revenues to increase substantially,” says Canterbury Chairman Stan Pikus.

“There aren't many nanny schools, so we think the rising consciousness for nannies will also increase demand for our school,” Pikus adds. Canterbury posted revenues of \$13.7 million last year, and he expects revenues will jump to more than \$17 million in 1993 and then rise to \$35 million in 1994.

“We have started a nanny placement service, too, which we expect will be very profitable,” adds Pikus. One big investor, who thinks the stock will hit 8 sometime this year, expects Canterbury will earn 30¢ a share this year—up from last year's 21¢—and 40¢ to 45¢ in 1994.

BEHIND THE BLOODY BATTLE IN DART'S BOARDROOM

The Haft family feud pits real estate vs. retail and secrecy vs. openness—not just father against son

It was delicate business for Warren E. Tydings. The Dart Group Corp. director was trying to mediate a blood feud between his friend, Dart Chairman Herbert H. Haft, and Haft's son Robert. Although the father-son team had worked together for nearly two decades to build the company's network of discount chains—including Trak Auto, Crown Books, and Shoppers Food Warehouse—they now quarreled over just about everything. On May 22, the 81-year-old Tydings died, having accomplished little in his two months of peace-making attempts. At his funeral, his widow, Anna Marie, took the elder Haft aside and told him that her husband's dying wish was that the Hafts work out their problems.

That deathbed appeal won't be granted anytime soon. The family rift runs the gamut of issues, from how quickly to expand a new chain of liquor outlets to whether Dart should reveal more information to shareholders. By far the most explosive issue has to do with whether 72-year-old Herbert, who owns 57% of the company, will turn over control to 40-year-old Robert, who owns only 8.3%. Herbert's wife, Gloria, controls 18% of the stock and has sided with Robert. Another son, Ronald, who runs the Haft family's real estate business, and daughter, Linda, who is an officer with the company's finance arm, have not yet publicly taken sides. Both own 8.3%.

The drama could climax at the June 25 annual meeting in Landover, Md. At the urging of the senior Haft, shareholders will vote on a plan to oust Robert and his mother from the board. "This is about Herbert trying to show that he's in charge," says one Dart executive. But supporters of the elder Haft contend that he is only trying to thwart a bald-faced power grab by his son.

It would be easy to dismiss the Haft family feud as an aberration. In fact, such spats occur often at family-run enterprises. Founders resist stepping aside, while aggressive offspring grow impatient for real power. In business, such "tense conflicts between father and son

are as old as time," says Jonathan J. Ledecy, president of the Legacy Fund, a Washington-based firm that invests in family-owned businesses. In such situations, "a dysfunctional family can often translate into a dysfunctional business."

LACKLUSTER. That certainly has been the case of late at Dart, where the company earned a paltry \$32 million on operations—despite sales of \$1.3 billion in the fiscal year ended Jan. 31. Just who is to blame for the poor performance is open to debate. But there is little question that the rift between father and son has made things worse. This is the story, pieced together from public documents and interviews with Dart board members, executives, and people close to the Hafts, of why the family is tearing itself apart.

The tale begins in 1954, when Herbert, a trained pharmacist, and Gloria, a cosmetologist, opened the first Dart drugstore in downtown Washington. The pharmacy trade came naturally: Herbert's Russian immigrant father had owned a drugstore in Baltimore. Gloria often worked behind the Dart counter, and Robert, even as a toddler, tagged along with his dad to drug conventions. The Hafts eventually built a 73-store discount drug chain.

In 1977, fresh out of Harvard business school, Robert became a manager. A year later, he created Crown Books Corp., a discount operation that is now the nation's third-largest book-seller, and installed himself as the company's TV pitchman. In 1979, Dart launched Trak Auto Corp., which sells discount auto parts and accessories. By 1984, the family had sold off the ailing drugstore chain in a leveraged buyout for \$160 million. The Hafts added to their fortune with a series of takeover attempts in the 1980s—including a battle for Safeway Inc. in which the eventual acquirer

bought out their shares at a premium.

Both Herbert and Robert were tough aggressive businessmen. They got along well, despite the fact that Herbert was product of the school of hard knocks while Robert was more the B-school, analytical type. Over time, Herbert came less involved in the retail end and focused more on Dart's real estate



HERBERT HAFT (RIGHT) WANTS SON ROBERT (LEFT) AND HIS MOTHER TO BE FORCED OFF THE BOARD

es, among other things. In 1991, he made several trips to the Soviet Union to buy scrolls sacred to the Lubavichers, a Hasidic Jewish sect. Meanwhile, he advised Boris Yeltsin on improving food distribution and traveled to Budapest to act as an official observer in Hungary's first free elections.

TIMETABLE. But occasionally the sen-
Haft would dip back into the busi-
ness, often with troublesome results. In
response to rivals' price cuts in Chicago
Los Angeles two years ago, for in-
stance, Herbert slashed Trak's prices on
motor oil, filters, and other items, some-
times to below cost. Sales soared, but
for the next two quarters, Trak lost
\$1 million. Then, to boost growth, he
decided to open 11 new outlets in San
Diego, only to shut them down this year
when the market couldn't support them.
Herbert's supporters explain that the
price cuts boosted market share while his
rivals floundered. And the San Diego
expansion, he says, stumbled

because of two unforeseen events—
Desert Storm and Pentagon cutbacks—
both of which devastated the area's
economy. Robert, however, felt his fa-
ther's involvement was distracting and
hindered the development of a coherent
business strategy. So this past March,
Robert broached a topic that had been
discussed informally in family councils
for years: succession. At the time, Her-
bert tacitly agreed to step down, but
he gave no specific timetable.

Robert started acting as if he were
CEO, anyway. He prepared a memo that
outlined his vision for Dart and gave it
to a number of board members for their
comments. Robert emphasized retailing,
not real estate, his father's first love.
And drawing on lessons from Harvard,
he said he wanted to foster a more open
corporate culture, one that would allow
people to make mistakes.

Robert also wished to reach out to
Wall Street. To do that, he wanted to
reveal more about the company than

did his secretive father. Accordingly, he
included a broader range of data in the
most recent Crown annual report, in-
cluding a plan detailing the number of
stores to be opened over the next two
years. Herbert loathed such openness,
seeing the revelations as a way to help
rivals, or a basis for them to sue.

Ten days after the succession meeting,
the mercurial Herbert announced he had
changed his mind about stepping down.
It didn't help that father and son were
clashing over an idea of Herbert's, called
Total Beverage. One such cut-rate liquor
store already was in operation in subur-
ban Washington, and Herbert asked
Robert to find a CEO for the company.
Robert supplied two candidates, but
Herbert rejected both, saying that nei-
ther was qualified.

At the Apr. 19 board meeting, things
went from bad to worse. Herbert asked
for the board's approval to open two
more Total Beverage stores and wanted
to move fast. Robert suggested more
analysis might be prudent, and the
board agreed. Everything was rela-
tively calm until Robert suggested
his father's projections for the chain
might be too rosy. Angry at what
he thought was Robert's obstructive
and destructive behavior, Herbert
suggested that his son simply want-
ed to kill his idea. One observer says
the meeting became so tense that di-
rector Tydings was nearly moved
to tears. "We can't go on like
this," Herbert muttered when
it was over.

FAST AND FURIOUS. The rift
probably could have been
mended at this point, were
it not for an Apr. 23 article
in *The Wall Street Journal*
that referred to the younger
Haft as "de facto chief execu-
tive for the last two years." In
the piece, Robert noted
Dart's performance had
been uneven for years be-
cause its strategy hadn't
been clear. He said by fo-
cusing more on retail, he
hoped to lift Dart's net
income over the next four
years to \$15 million, from
\$3.7 million last year. "Be-
fore this, we had a simmer-
ing little fire going," says one
Dart director. "But the *Journal*
article was like a tanker truck filled
with kerosene that had just tipped
over."

Enraged by his son's statements,
Herbert had a letter sent to Robert
ordering him not to talk to Dart em-
ployees, customers, or suppliers. He ac-
ceded because he believed Robert's com-
ments in the *Journal* article showed poor
judgment. Throughout May, Tydings

LOOK AT THE HAFT EMPIRE

1993*

REVENUES/OPERATING INCOME

DART GROUP
PARENT COMPANY

\$1.3 Billion/\$32 Million
57% controlled by Herbert

TRAK AUTO

\$316 Million/\$20 Million
317 Stores
66% owned by Dart

CROWN BOOKS

\$241 Million/\$14 Million
247 Stores
51% owned by Dart

SHOPPERS FOOD WAREHOUSE

\$693 Million/\$14 Million
34 Stores
Majority owned by Dart

CABOT-MORGAN REAL ESTATE

\$14 Million/\$7 Million
100% owned by Dart

DART GROUP FINANCIAL

\$4 Million/\$3 Million
100% owned by Dart

*FISCAL YEAR ENDED JAN. 31

DATA, COMPANY REPORTS



tried to mediate the feud, as did Dart Director Claudine B. Malone, one of Robert's professors at Harvard and a family friend.

But the battle flaired completely out of control at a May 24 meeting of the Crown and Trak boards. Given the serious nature of the gathering, James G. Leonard, a director on both boards, flew back from the south of France, where he was to celebrate his 75th birthday with his wife. Before the meeting, Herbert had sent notice that he planned to bring his lawyer and advised everyone else to bring theirs. Robert and his mother decided against it. But other directors made sure they were represented.

BIRTHDAY BOMB. Normally during such meetings, Mrs. Haft chose to stay silent. Not this time. According to a witness, she got up and asked: "Why are all these lawyers here? I don't have a lawyer. Why can't we just work things out?" She urged her husband not to act precipitously in ousting her and her son. "This is your family. This is a business we have all built together," she said. "I implore you, as your wife and partner of 47 years, not to do it."

When she was done, Herbert sat silently. Finally, he announced that he hadn't decided if he would vote in favor of the proposed Crown board—suggesting his wife and Robert were out. Then he said that the Trak board meeting wouldn't be held because his lawyer, Michael R. Klein, had to catch a plane for a partner's meeting in Brussels. That annoyed a number of directors, especially Leonard, who had flown in from France.

The die was clearly cast. On Friday, June 4, Dart issued a statement saying there might be changes in the boards of Dart, Trak, and Crown. The following Monday, another statement came out with a new slate of board members, making it clear that Robert and his mother were being dumped.

The new Dart board would consist of three people: Herbert, Douglas Bregman, a real estate attorney, and Bonita A. Wilson, widow of Washington's late city council chairman. The release went on to say that Claudine Malone and James Leonard would not stand for reelection. There was "lack of agreement," it explained, between the two directors and "the majority shareholder," namely Herbert, on the company's direction.

When Herbert eventually steps down, it's likely he will pass over Robert. Instead, he could turn to his other children. Some Dart insiders still hope Herbert will relent and reinstate Robert, who has played a greater role in Dart's growth. "This is a family business, and you can never count family out," says one executive. Actually, in a family business, you can never count on anything.

By Mark Lewyn in Washington

The Corporation

MANAGEMENT

DENNY'S: THE STAIN THAT ISN'T COMING OUT

Can a pact with the NAACP help it overcome charges of bias?

It's a matter of common sense, says Jerome J. Richardson, chief executive of TW Services Inc. Saddled with \$2.2 billion in long-term debt after a 1989 leveraged buyout, his Spartanburg (S.C.) company needs all the money it can earn from its Denny's restaurants. It would be crazy to refuse any customer because of skin color, he says. "Our company does not tolerate discrimination of any kind," says Richardson.

Maybe so. But lately Denny's has been barraged by lawsuits and accusations alleging a pattern of racial discrimination. On Mar. 24, a group of minority customers in San Jose, Calif., filed a lawsuit against Denny's. Among the charges: Denny's required cover charges and prepayment of meals from minorities. On Apr. 1, Denny's agreed to strengthen its policies on equitable treatment to settle a Justice Dept. suit that accused the restaurant chain of discrimination against black customers.

Perhaps most damaging was the highly publicized lawsuit filed on May 24 by six African-American Secret Service agents, who claim they were denied service at an Annapolis (Md.) Denny's because of deliberately slow service. By contrast, the suit alleges, white colleagues were served in a timely fashion.

OBJECT LESSON. In each case, TW claims that if any discrimination did occur, it was in direct violation of corporate policies. But Richardson admits he can't afford to ignore the firestorm of negative publicity. TW's CEO is already in talks with Benjamin F. Chavis Jr., the new executive director of the National Association for the Advancement of Colored People (NAACP) to hammer out a policy that could serve as a model for corporations. Among the possibil-

ities: nationwide testing by the NAACP of Denny's restaurants to identify racial discrimination.

In many ways, TW's travails are an object lesson for Corporate America. Often, management consultants contend, senior executives depend too heavily on policy statements instead of active monitoring and training to avoid discrimination complaints.

The issue of racism has already hit other corporations. In November, Shoney's Inc. restaurant chain agreed to pay \$132.5 million to settle a lawsuit filed by minority workers and job seekers who said they had been discriminated against.

Strains are already beginning to show at TW. In addition to its Denny's chain, the company is also the nation's largest Hardee's franchisee, the parent of the Canteen food-service company, a co-owner of the Quincy's Family Steakhouse and El Pollo Loco restaurant chains. TW, 47%-owned by Kohlberg Kravis Roberts & Co., was hoping for improved cash flow from its restaurants to pay down more of its debt. But franchisees are afraid that the bad publicity is driving away customers. Don Bohannon, Denny's only black franchisee, complains that business at his restaurant in a pr-



inantly black neighborhood in Los Angeles down about 18%, \$800, on the Sunday following the news of Secret Service agents' complaint. Boza says he has similar reports from other northern California franchisees.

Charges of discrimination at Denny's first surfaced after an incident in late December, 1991, when 18 young African Americans ended a San Jose (Calif.) Denny's and were

each had to pay a \$2 cover charge. What's more, they were told they had to prepay for their meals. The group later said white teenagers nearby table told them they neither had a cover charge nor were asked to pay. The African-American youths without ordering, and they told their way to the *San Jose Mercury News*.

AND RUN? Stung by the negative publicity, several top TW executives flew to San Jose in early 1992 and met with NAACP leaders. Richardson said he wasn't aware that local managers had the option of imposing the prepay policy during late-night hours to avoid eat-and-drink theft. But he points out that only 35 of more than 1,000 company-owned Denny's did so because of past trouble. In 1991, the company quickly agreed to change the policy and to expand sensitivity training for staffers nationwide. In the meantime, that apparently hadn't been viewed as a high priority. Much more time was spent preventing discriminatory hiring practices. Indeed, Val E. Christensen, chairman of Denny's Franchisee Advisory Council, says the issue of discrimina-

DENNY'S MENU FULL OF PROBLEMS

MAR. 24 Lawsuit filed by minority customers in California alleges Denny's employees refuse to serve African Americans, impose cover charges, and require prepayment from minorities. Expanded class-action filing expected. Denny's denies allegations.

APR. 1 Federal judge approves consent decree between Denny's and U.S. Justice Dept. Denying any pattern of racial discrimination, Denny's agrees to reinforce policies of equitable treatment and to communicate guidelines to all employees at restaurant chain.

MAY 24 Six African-American Secret Service agents file lawsuit alleging they received such slow service at a Denny's in Annapolis, Md., that they were, in effect, denied service. Denny's denies the slow service was racially motivated.

DATA: COMPANY REPORTS, BUSINESS WEEK

that the service snafus were racially motivated. Indeed, TW says the manager wasn't dismissed for discrimination, but for failing to tell a superior of the agents' complaint. Richardson, who plans to fight the suit, says the restaurant was short-staffed on the morning when the nearly two dozen agents showed up.

Looking ahead, Richardson, a 56-year-old former professional football player, hopes

to redeem Denny's reputation with the so-called Fair Share pact being hammered out between TW and the NAACP. In addition to random testing, the accord would require TW to hire more minority executives, restaurant managers, and employees and boost its purchases from minority-owned suppliers. The accord also calls for TW to add at least one minority member to its all-white board. A final agreement between TW and the civil rights group could be announced at the NAACP's July convention in Indianapolis. "This would go far beyond anything we've ever done before with a corporation," says the NAACP's Chavis.

Separately, Chavis says TW's CEO has also agreed to ensure minority participation in the ownership and management of a National Football League franchise that Richardson is seeking for Charlotte, N.C.

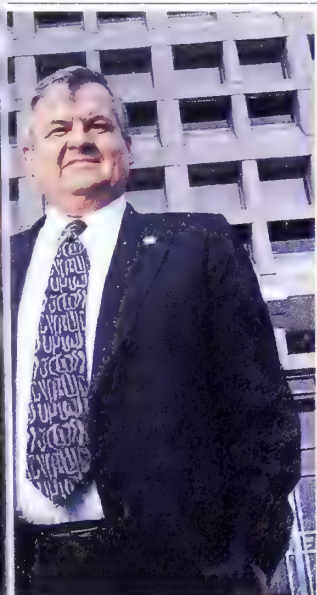
RESPECT. So far, Richardson's cooperation has won him respect from civil rights leaders. "I'm impressed with Jerry's level of sincerity," says Chavis. Still, the NAACP says Denny's has more work to do in improving relations with the African-American community. For example, it points to Denny's sole black franchisee, vs. some 400 at McDonald's.

TW's chief hasn't won over all his critics, however. "It's a foxhole conversion, if you ask me," says John P. Relman of the Washington Lawyers Committee for Civil Rights & Urban Affairs, who is representing the Secret Service agents. Relman wants a nationwide settlement similar to Shoney's agreement.

For now, most analysts believe TW, which renamed itself Flagstar Corp. on June 16, can avoid Shoney's fate. The company's conciliatory tone has eased the controversy somewhat. Still, Richardson has a more urgent challenge: convincing the public and his employees that he truly believes in his common-sense notion that discrimination is bad business.

By Chuck Hawkins in Spartanburg, S.C., with bureau reports

TERESA PAGE



Discrimination charges from six Secret Service agents have set off a firestorm of bad publicity for CEO Richardson

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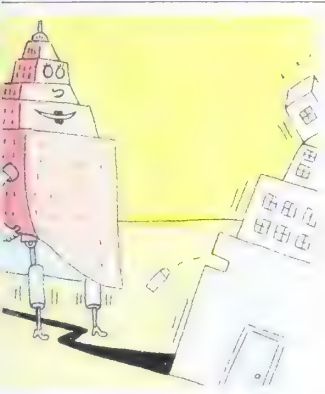
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Developments to Watch

BY WILLIAM D. MARBACH

RACING WAY TO GIRD BUILDINGS AGAINST QUAKES



During the cold war, Taylor Devices Inc. in North Tonawanda, N.Y., developed shock absorbers to protect MX missiles in their silos, and other military gear, from the shock of nuclear explosions. With the State University of New York at Buffalo, the company is using the technology to protect buildings from earthquakes.

When activated by a piston in each stainless steel absorber forces silicon rough the device's internal passages at very high speed, converts the mechanical energy to heat and dissipates it, Taylor Devices President Douglas P. Taylor.

To brace a building, the 3-inch diameter steel shock absorber can be anchored to the building frame at its base or in diagonal rows every three floors. Taylor expects to begin manufacturing the seismic shock absorbers within a year—at prices ranging from \$200 to \$30,000, depending on the size and location of the building and its location.

OK WHAT GOT CAUGHT IN THIS SPIDERWEB

Like the case of the serendipitous cobwebs. At IBM's Almaden Research Center, Donald S. Bethune was trying to create tiny magnetic particles encased in protective carbon tubes. Such particles might lead to smaller magnetic computer storage devices. When Bethune vaporized cobalt-containing electrodes, he got a big surprise. Normally, the material condenses as a crumbly-looking soot. But the experiment's chamber was filled with cobweblike strands hanging from the walls. "No one had seen anything like it before," Bethune recalls. "We said, 'What in the world's going on?'" He rushed the spidery stuff to IBM's electron microscope, who found the strands contained pure carbon tubes one-billionth of a meter in diameter. Each tube's wall, Bethune recounts in *Nature*, is only one atom thick. Calculations suggest that such tubes, also being reported in *Nature* by researchers at NEC Corp., may be far stronger than carbon fibers in today's carbon-composite materials in tennis rackets and Stealth fighters. Composites based on the tubes may bring big advances in strength and versatility. "We hope they will end up being commercially important," says Bethune.

BRACING UP FLICKERS GOT SLICKER

A century million feet of history on film was crumbling away in the Fox News Movietone archives. So Fox engineers Andrew Setos and Evans Whetmore designed two scanners to convert decades of 11-minute *Movietone News* reels and out to digital images. Fox will use the digitized footage to create videotapes that are compatible with the worldwide range of TV standards, including HDTV. The traditional method

of transferring old film to safety-base film "would have cost 10 times as much and taken a decade," says Setos.

To build the scanners, Setos and Whetmore did their technology shopping mainly in the defense industry. The imaging chip in the scanner was developed by Eastman Kodak Co. for a surveillance camera. "After our needs are fulfilled," says David Ferrara, vice-president for marketing at Fox News, "we believe the technology may be sold to other institutions or we may offer our conversion services." Ferrara expects the entire Movietone catalog to be available by early 1994.

ULTRATINY WIRES THAT MAKE THEMSELVES

Working on the frontiers of the 21st century, scientists have made a key advance in nanotechnology—building things from individual atoms and molecules. Researchers at Los Alamos National Laboratory, Yale University, and the University of South Carolina have produced molecules that assemble themselves into ultratiny wires.

First, a team at Los Alamos used supercomputers to model hypothetical polymers, searching for one that would conduct electricity and bond to silver or gold contacts. After a year, they settled on a complex structure of linked rings of atoms, including carbon, nitrogen, and hydrogen. At South Carolina, chemistry professor James Tour produced the concoction.

When Los Alamos researchers poured the substance onto a silicon wafer with embedded silver and gold contact points, the molecules attached themselves to the metal—then formed themselves into wires connecting adjacent contacts. Yale's Mark A. Reed, professor of electrical engineering, is testing to see how much electricity the polymeric wires can carry. "Our next challenge," says Los Alamos' Gary D. Doolen, "will be to try to design a transistor out of self-assembling molecules." The ultimate goal: next-century computer chips 1,000 times as powerful as today's best number-crunchers.

WELL, SHIVER ME TIMBERS AND PEPPER ME BARNACLES

Barnacles on your boat? Bring on the hot peppers, says inventor Ken Fischer. Barnacle Ban, an experimental pepper-based paint, was inspired by one bite of a Tabasco-drenched deviled egg. Fischer decided barnacles clinging to the bottom of his sailboat might react similarly. So he mixed oil from cayenne peppers with an epoxy-based paint.



Fischer took his idea to spice experts at McCormick & Co., which came up with an extra-hot derivative of the habañero pepper. The company is testing several paint formulations in its labs and at the U.S. Navy's Charleston (S.C.) shipyard. "The big advantage is that it's more environmentally friendly than the cuprous oxide paints, which are toxic to marine life," says McCormick's Jon Luikart, director of vendor certification. Fischer, a Pittsburgh-based industrial designer, holds the patent on Barnacle Ban. Luikart expects it will take more than a year to complete testing and get Environmental Protection Agency approval.

IN THE LABS, THE FIGHT TO SPEND LESS, GET MORE

A growing number of companies are succeeding. The keys? Planning and involving manufacturing

Last December, near the height of his popularity, then-President-elect Bill Clinton chastised IBM after the wounded giant said it would slash \$1 billion—20%—from its 1993 budget for research and development. R&D, said Clinton at his Little Rock economic summit, is “the exact thing we don’t want them to be cutting.”

The truth is, IBM had little choice, coming off a year when it lost \$4.97 billion. And Big Blue, America’s second-biggest R&D spender last year behind General Motors Corp., isn’t alone. As the world economy limps along and competition gets tougher, nearly all companies are feeling pressure to hold down R&D costs and at the same time speed the development of products.

On that score, the word from the lab

is encouraging: It really is possible to get more bang for the buck. Assessing how much more will have to wait a couple of years, until more goods from streamlined R&D operations hit the market. But there are early successes around the world. Boeing Co. is reducing expensive rework by using computers and teamwork to design simultaneously the 777 airliner and the machinery that will build it. Japan’s Sharp Corp., by focusing its R&D on a proven winner, has hung on to world leadership in liquid-crystal displays for everything



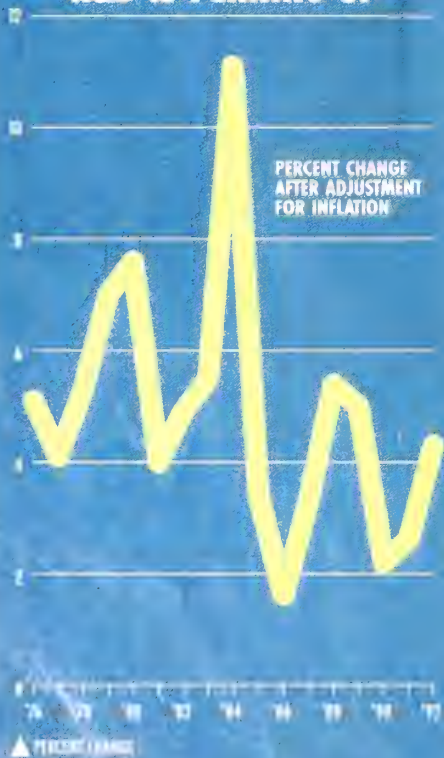
BOEING AIMS TO AVOID COSTLY REWORK ON THE 777 BY SPENDING EXTRA MONEY UP FRONT ON COMPUTER DESIGN

from wall-hanging TV sets to the Wizard electronic organizer. Europe’s Asea Brown Boveri (Holdings) Ltd. keeps products flowing swiftly by doing more than 90% of R&D in business units rather than in isolated central lab.

To prosper, IBM will have to pull off such feats and better. So far, so good, says Mark F. Bregman, vice-president for technology plans and controls: “There are certainly people within IBM who think we’re doing too much. My view is that we’re doing generally a very good job of reducing spending without reducing

R&D IS PERKING UP

PERCENT CHANGE AFTER ADJUSTMENT FOR INFLATION



WHO'S LEADING THE COMEBACK

	Percent change 1992-1991	1992 R&D spending, \$ million	As percent of sales	R&D per employee
CONTAINERS AND PACKAGING	22%	\$144.6	0.9%	\$1,247
HEALTH CARE	18	11,804.0	9.7	16,385
AEROSPACE	16	4,614.1	4.4	6,892
MANUFACTURING	8	3,648.7	3.0	4,143
CONSUMER PRODUCTS	8	2,163.4	1.4	2,297
LEISURE-TIME PRODUCTS	8	2,114.0	5.7	8,644
FOOD	8	587.9	0.7	1,338
AUTOMOTIVE	7	12,301.2	4.0	8,103
ELECTRICAL AND ELECTRONICS	7	7,961.7	6.0	6,895
OFFICE EQUIPMENT AND SERVICES	6	17,196.2	8.4	16,728
CHEMICALS	6	5,554.6	4.3	10,461
SERVICE INDUSTRIES	5	135.4	0.7	916
CONGLOMERATES	3	3,434.5	2.6	4,747
HOUSING	2	481.4	1.8	2,764
PAPER AND FOREST PRODUCTS	0	444.7	1.1	1,971
TELECOMMUNICATIONS	-3	3,690.4	3.1	5,678
FUEL	-5	2,751.7	0.8	4,120
METALS & MINING	-6	410.2	1.1	2,006
ALL-INDUSTRY COMPOSITE 1992	7	79,438.6	3.7	7,106
ALL-INDUSTRY COMPOSITE 1991	7	74,213.6	3.6	6,355

DATA: STANDARD & POOR'S COMPOSITE SERVICES

R&D'S BIGGEST SPENDERS

BY TOTAL SPENDING...

	1992 R&D expenses Millions
1 GENERAL MOTORS	\$5,917
2 IBM	5,083
3 FORD MOTOR	4,332
4 AT&T	2,911
5 BOEING	1,846
6 DIGITAL EQUIPMENT	1,754
7 HEWLETT-PACKARD	1,620
8 EASTMAN KODAK	1,587
9 GENERAL ELECTRIC	1,353
10 MOTOROLA	1,306

...BY SPENDING PER EMPLOYEE...

	1992 R&D expenses Per employee
1 BIOGEN	\$178,168
2 GENENTECH	115,893
3 CENTOCOR	105,291
4 CHIPS & TECHNOLOGIES	86,137
5 AMGEN	78,072
6 CHIRON	76,554
7 GENETICS INSTITUTE	66,572
8 TRIDENT MICROSYSTEMS	59,968
9 ADOBE SYSTEMS	55,929
10 IMMUNEX	55,034

SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES

...AND IN RELATION TO SALES

	1992 R&D expenses As percent of sales
1 CENTOCOR	124.3%
2 CHIRON	82.1
3 GENENTECH	54.4
4 GENETICS INSTITUTE	53.6
5 IMMUNEX	53.0
6 BIOGEN	48.8
7 CONTINUUM	33.9
8 CHIPS & TECHNOLOGIES	32.4
9 TEKELEC	27.9
10 INTEGRATED DEVICE TECHNOLOGY	25.7

act of the spending." As more comes master that trick, efficiency won't be an emergency measure anymore—

be a strategic necessity. The successes so far come against a drop of frustration. The efficiency movement that hit factory floors in the and the office in the '90s took a time to reach the lab. CEOs were tant to tamper with a system that y didn't understand. So labs often ed stray ideas or invented products were unbuildable or unsalable. Fi- 7, top managements put on the eze, and real growth in R&D spend- in the 1990s has trailed the aver- for the '70s and '80s.

STREAMLINING. Still, forward-thinking anies began finding a way out of ox. Motorola Inc. and Hewlett-Pack- Co., for instance, developed princi- for streamlining R&D that are being cated, albeit slowly, in other compa- "Measuring and improv-

R&D productivity and ef- veness" was the goal- often cited by 248 R&D tors in an April survey e Washington-based In- tial Research Institute. deed, few business is- are more important. ng products to market ly is becoming the key ccess, especially since ng companies have ed rough parity in other cts of business, such as aufacturing costs. Productiv- U.S. manufacturing rose althy 2.9% annually in the s. Now Michael E. Mc- h, co-founder of Weston s.) product development ntant Pittiglio Rabin Todd

Grath, predicts that "in the '90s, see the same kind of productivity ovements in R&D that you saw in aufacturing in the '70s and '80s."

By contrast with manufacturing, how- ever, the efficiency drive in R&D isn't occurring in a crisis atmosphere. So though increases in R&D spending are still modest by earlier standards, they're respectable except at the most embattled companies. In the U.S., R&D outlays by some 900 big compa- nies rose 7% in 1992, to \$79.4 billion, according to Standard & Poor's Compustat Services. R&D spending was strong in a range of U.S. businesses last year. It rose 18% in health care, led by biotech, and 16% in aerospace, paced by

a 30% leap at Boeing related to the 777. Spending fell 3% in telecommunications, largely because of a 7% falloff at AT&T that was partly due to complet- ing the integration of NCR Corp. The all-industries in- crease was 4.3% after in- flation, the biggest in three years.

Internationally, spending gains were just as healthy. R&D outlays by 200 big compa- nies outside the U.S. rose 7.8% in their latest fis- cal years before adjustment for inflation, according to S&P Compustat's Global Van- tage unit. International spend- ing changes are measured in local currencies so percentag- es aren't skewed by the dol- lar's fall. Siemens repeated as the No.1 R&D spender outside the U.S. on the strength of its \$5.32 billion in outlays,

while Japanese companies took 6 of the top 10 positions. Sweden, with 10 compa- nies surveyed, had the biggest national gain in R&D spending, at 15.2%. Odd as

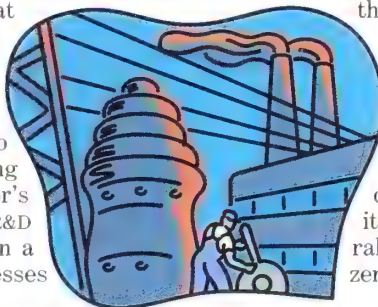
it sounds, such numbers don't reduce the pressure to economize, because the demand for R&D is rising even faster than budgets, executives say.

Multinational companies, which have the most room to improve, have been the first to take efficiency to heart. Many have labs dotted across several contin- ents, so lines of au- thority can be fuzzy and cooperation may be inhi- bited by language or cultu- ral barriers. ABB has citi- zens of 20 countries in its Zurich lab. The solu- tion, R&D directors say, is improved commu- nication. And that's

where many are focusing their efforts.

CULTURE SHOCK. ABB is a good example. The Swedish-Swiss power and transpor- tation conglomerate wasn't sure how to digest its 1990 acquisition of Combustion Engineering Inc., based in Stam- ford, Conn. But it benefited from some transatlantic swaps. It hired an Ameri- can, General Electric Co. veteran Craig S. Tedmon Jr., to head the company's Zurich-based worldwide R&D. And it in- stalled an Austrian who holds a U.S. PhD, Gernot H. Gessinger, to run GE's Windsor (Conn.) combustion lab.

Cross-culturalism in research can be a shock. Gessinger found the Connecticut lab dirty, stuffed with unneeded equip- ment, and unfocused. He ordered a cleanup and canceled dangling projects. And he uncovered distrust. The prag- matic engineers in Connecticut feared intrusions by ABB's combustion theoreti- cians in Baden, Switzerland. The Swiss doubted the Yanks' credentials. Gessinger built trust by having Windsor help perfect a gas-fired boiler that Baden de- veloped. Since then, he has beefed up Windsor's research staff with a combus- tion expert from Massachusetts Insti-



ABB'S RESEARCH CHIEF ARGUES THAT BEING AT THE FOREFRONT OF R&D IS CHEAPER IN THE LONG RUN THAN COPYING OTHERS



SHARP IS ZEROING IN ON A FIELD WHERE IT'S ALREADY A WORLD LEADER—LIQUID-CRYSTAL DISPLAYS FOR COMPUTERS AND TV'S

R & D Scoreboard

tute of Technology. "We work now in a new climate," Gessinger says.

Fixing research and development also depends on puncturing the myth that it's inherently unmanageable. In fact, reorganizing R&D can cut product-development cycles by up to one-half, according to Pittiglio Rabin, a practitioner in the field. One of its ideas: identify weak projects earlier, kill them, and nourish the survivors. Planning helps, too. At Ford Motor Co., the third-biggest U.S. spender on R&D, Neil W. Ressler, executive director of North American vehicle engineering, says: "A dollar spent up front [on planning] might save \$10 or \$100 downstream."

INVISIBLE SHIELD. DuPont Co. started getting product development on track by mimicking Motorola. With the help of Pittiglio Rabin, DuPont copied Motorola's style of concurrent engineering: involving manufacturing and marketing people with scientists from the very start of product development. DuPont's marketers brought radiologists into the labs to evaluate a chest X-ray system while there was still plenty of time to change it. The system, UltraVision, was developed in 16 months, half the usual time, and is in about 150 hospitals. Says Suzanne R. Linderman, business director for diagnostic imaging: "It's the most successful market introduction we've ever had in the business."

Decentralization is another current watchword. Often, there is an invisible but nearly uncrossable barrier between a central lab and operating businesses. Intel Corp. Chairman Gordon E. Moore discovered that when he co-founded the company that became Fairchild Semiconductor Corp., the granddaddy of Silicon Valley. "As the company grew, it became increasingly difficult to get ideas out of the lab and into the divisions," Moore says. In fact, startup companies used Fairchild's ideas before Fairchild itself did, he says. So Intel, which hiked R&D 26% last year, doesn't have any central lab at all. It does all of its research through operating divisions.

Intel is hardly the only company to decentralize. AT&T Bell Laboratories, once a monolith, is now mainly a name on a badge for most people associated with it. Most take orders from AT&T's

business units. That change of authority was confirmed on Jan. 1, when two-thirds of the 21,000 people who got paychecks from Bell Labs began drawing them from AT&T's operating businesses. Decentralization paid off in the forthcoming Eo, a combination computer, phone, and sketch pad that grew out of unusually candid discussions among

AT&T's researchers, product planners, and corporate partners. Such streamlining also helped AT&T absorb last year's 7% cut in R&D spending.

That doesn't mean Bell Labs has become some kind of job shop, of course. While there's more emphasis on here-and-now products, AT&T devotes 10% of its R&D to basic research, the same as before. And there's still room for free spirits. John H. Davis, Bell Labs' group technical officer for communications services, says he winks when he sees unauthorized work going on if it seems worthwhile to him: "My role is not to stomp on things that need to survive."

Frank P. Carrubba decentralized Philips Electronics' R&D in much the same way when he was hired from Hewlett-Packard in 1991. Philips' R&D used to be 100% funded by headquarters. That kept the labs insulated from business needs during a crisis of falling profits and aging products. So Executive Vice-President Carrubba slashed the HQ share to 30%, forcing researchers to seek work from operating divisions. Carrubba farmed out peripheral research to universities in Europe and the U.S. And he formed a group to field all ideas for new products—"so lower-level managers don't

allow something terrific to die on the vine," as had often happened.

IBM's once-cloistered researchers are being forced to learn entrepreneurship in a hurry. Three years ago, they created a supercomputer for generating colorful 3-D images from gigabytes of data. Rather than hand it off to a business unit, where it might get lost, IBM's research formed an internal startup to develop and sell it. In Zurich, IBM's even manufactures, using a test line, make specialty lasers for sale to the telecommunications industry.

It's possible, of course, that too much focus on short-term problems and cost savings could leave companies starved for new ideas a few years hence. Recent incentives have stolen brainpower from many U.S. labs, says Charles Larson, executive director of the Industrial Research Institute. Overseas labs are facing many of the same issues. Hitachi Ltd. has roughly halved capital equipment spending by its vaunted Advanced Research Laboratory since 1985 to save money. After enduring savings cuts, says Shojiro Asai, the lab's general manager, "we may not be able to bark on some grand new enterprise."

Still, don't assume that giving business types more say in research may produce short-term thinking. Once the develops between the two, management may actually end up urging researchers to concentrate on longer-term needs, says William F. Powers, executive director of Ford Research Laboratories. Agrees ABB's Tedmon: "Business managers many times have as long-range views as anybody in the laboratories."

BLOCKBUSTERS. In the fastest-growing companies, the distinction between business and the lab can be hard to detect. That's true in biotechnology. Chiron Corp., R&D was 82% of sales last year. The bet, of course, is that heavy spending now will produce a stream of blockbuster drugs that will have Chiron sitting pretty for years.

Companies such as Chiron aren't increasing R&D on a whim, and neither are their counterparts in less flashy industries. Companies that want to grow must sow new seeds. But they're husbanding their resources more carefully than ever. To paraphrase the Federal Reserve, that is the exact thing they should be doing.

By Peter Coy in New York with Jonathan B. Levine in Paris, Joseph Weber in Philadelphia, Richard Brandt in San Francisco, Neil Gross in Tokyo, and bureau reports

CHIRON, LIKE OTHER BIOTECH COMPANIES, LIVES AND DIES BY R&D IN 1992, R&D EQUALED 82% OF SALES



THE U.S. LAGS IN CORPORATE R&D GROWTH

Top R&D spenders among 200 nations	Percent change 1992 vs. 1991	1992 spending Millions	As percent of Sales	Profit	No. of firms
SWEDEN	15.2%	\$3,500	5.8%	282.7%	10
BRITAIN	9.5	8,098	2.7	33.5	29
SWITZERLAND	9.5	5,206	6.3	89.8	11
JAPAN	8.6	35,035	5.5	109.2	75
FRANCE	8.2	9,103	3.8	66.4	22
GERMANY	7.5	14,402	5.4	149.3	19
ITALY	5.4	3,781	4.2	558.5	8
CANADA	3.5	2,474	5.2	74.3	7
THE NETHERLANDS	-7.9	3,104	5.9	187.0	6
FOREIGN COMPOSITE	7.8	87,951	4.5	81.4	200
U.S. COMPOSITE	2.1	79,439	3.7	67.0	900

DATA: STANDARD & POOR'S COMPUSTAT SERVICES

R&D SCOREBOARD

GLOSSARY

CRITERIA: Data are for the most recent fiscal year reported as of May 18. If the company is not on a calendar-year basis, the number of the month in which its fiscal year ends appears in parentheses following the company name. Companies included in the survey are limited to those reporting sales of \$58 million or more and R&D expenses of at least \$1 million.

NA=not available; NM=not meaningful; NEG=negative earnings; NR=not ranked; *includes customer or government sponsored R&D; **includes engineering expense; †=R&D includes GM Hughes Electronics and EDS DATA: STANDARD & POOR'S COMPUSTAT SERVICES, A DIVISION OF MCGRAW-HILL INC

R&D EXPENSES: Dollars spent on company-sponsored research and development for the most recent fiscal year, as reported to the Securities & Exchange Commission on Form 10-K. Excludes R&D under contract to others, such as U.S. government agencies.

R&D DOLLARS PER EMPLOYEE: R&D expenditures divided by the reported number of company employees.

PROFITS: Pretax income.

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1991 \$ MIL.	1992 %	PER EMPLOYEE				CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991 %	R&D AS % OF PROFITS		
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
AEROSPACE		79438.6	7	7106.3	8112.4	2151990.0	5	192.2	3.7	118506.0	13	67.0		
AEROSPACE														
INDUSTRY COMPOSITE		4614.1	16	6891.6	4200.3	103860.0	1	155.1	4.4	5245.7	60	88.0		
Abex	ABE	11.6	3	2549.5	15	2611.6	13	728.4	3	160.1	1.6	-194.0	NM	NEG
Boeing	BA	1846.0	30	13000.0	1	7341.5	3	30184.0	3	212.6	6.1	2256.0	2	81.8
Curtiss-Wright	CW	1.6	-31	965.6	19	1126.4	17	179.7	-6	106.7	0.9	32.7	-2	5.0
GenCorp (11)	GY	36.0	0	2589.9	14	2432.4	14	1937.0	-3	139.4	1.9	37.0	-24	97.3
General Dynamics	GD	66.0	-8	2229.7	16	3384.0	11	3472.0	5	117.3	1.9	227.0	147	29.1
Lockheed Martin (3)		14.1	20	8268.0	3	6460.0	4	295.5	-6	172.9	4.8	-14.7	NM	NEG
Raytheon	KAMNA	17.8	27	3277.7	11	1954.0	15	782.9	1	144.3	2.3	29.0	2	61.3
Rockwell	LK	420.0	9	5857.7	6	5928.3	5	10100.0	3	140.9	4.2	549.0	16	76.5
Martin Marietta	ML	200.0 *	9	3589.8	10	3172.3	12	5954.3	-2	106.9	3.4	512.4	22	39.0
McDonnell Douglas	MD	509.0	19	5825.3	7	4982.4	7	17373.0	-4	198.8	2.9	1086.0	77	46.9
Northrop	NOC	93.0	-9	2767.9	13	3733.9	9	5550.0	-3	165.2	1.7	180.0	-35	51.7
OEA (7)	OEA	2.6	66	3207.3	12	1116.3	18	88.1	5	106.8	3.0	23.1	21	11.4
Orbital Sciences	ORBI	6.0	44	5126.2	8	8340.1	2	174.6	29	149.9	3.4	5.4	88	109.6
Pacific Scientific	PSX	8.2	-3	6046.3	5	4724.1	8	172.6	0	126.8	4.8	8.1	-33	101.8
Quanta	SQA.A	17.6	-10	1272.2	17	1175.9	16	1868.3	-1	135.4	0.9	43.8	29	40.1
Sundstrand	SNS	115.4	-6	9382.1	2	9252.6	1	1672.7	0	136.0	6.9	130.1	-25	88.7
Tiokol (6)	TKC	14.2	39	1267.9	18	NA	19	1311.7	4	117.1	1.1	101.8	16	13.9
United Technologies	UTX	1219.0	7	6848.3	4	5610.3	6	21641.0	4	121.6	5.6	200.0	NM	609.5
Woodward Governor (9)	WGOV	16.0	38	4405.3	9	3672.9	10	374.2	3	103.0	4.3	33.0	-13	48.5
AUTOMOTIVE														
INDUSTRY COMPOSITE		12301.2	7	8102.9	3314.8	309177.0	12	203.7	4.0	-934.0	NM	NEG		
A) CARS & TRUCKS														
GROUP COMPOSITE		11424.6	7	9281.2	5988.4	273597.0	12	222.3	4.2	-2553.2	NM	NEG		
Chrysler	C	1050.0	10	8203.1	2	7339.4	2	35501.0	26	277.4	3.0	934.0	NM	112.4
Ford Motor	F	4332.0	16	13315.6	1	10185.6	1	100132.0	13	307.8	4.3	-126.7	NM	NEG
General Motors†	GM	5916.9 **	1	7889.2	3	7133.5	3	130590.0	7	174.1	4.5	-3333.1	NM	NEG
Navistar International (10)	NAV	90.0	3	6453.9	4	6072.5	4	3875.0	12	277.9	2.3	-145.0	NM	NEG
Shkosh Truck (9)	OTRKB	13.1 **	26	5708.3	5	5196.5	5	640.6	53	278.5	2.1	12.4	907	106.1
Isuzu	PCAR	21.0	-5	1913.1	7	1716.0	7	2735.2	17	249.2	0.8	91.6	90	22.9
Isuzu Motors	SPAR	1.6	20	4069.6	6	4275.3	6	123.3	31	317.7	1.3	13.7	38	11.5
B) PARTS & EQUIPMENT														
GROUP COMPOSITE		524.4	15	2842.7	2288.3	22029.0	11	119.4	2.4	665.5	217	78.8		
3M Technologies (6)	BDT	6.7	17	5501.2	4	5501.2	2	92.6	14	75.7	7.3	5.0	59	133.9
Corcoran (11)	CLC	2.2	4	1451.3	15	838.5	17	188.6	5	121.8	1.2	25.3	-11	8.9
Cummins Engine	CUM	129.0	30	5512.8	3	4408.1	4	3749.2	10	160.2	3.4	76.4	NM	168.8
Denso	DCN	103.0 **	6	2942.9	8	2416.3	8	5036.1	11	143.9	2.0	57.6	NM	178.9
Donaldson (7)	DCI	10.3	21	2661.3	9	2072.5	11	482.1	5	124.3	2.1	41.7	6	24.7
Engle-Picher Industries (11)	EPI	13.5	13	2177.4	11	2136.6	9	611.5	2	98.6	2.2	31.9	NM	42.3
Johnson	ETN	141.0	14	3796.1	7	3432.5	5	3869.0	14	104.2	3.6	178.0	117	79.2
Johnson (8)	ECH	15.2	14	850.4	18	676.1	19	1783.4	6	99.6	0.9	94.5	54	16.1

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1991 \$ MIL.	FROM 1991 %	PER EMPLOYEE				CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991 %	R&D AS % OF PROFIT		
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
Excel Industries	EXC	5.5	6	1790.4	12	1338.9	14	426.9	21	138.5	1.3	6.0	NM	91.8
Federal-Mogul	FMO	18.2	-10	1272.7	17	1245.1	15	1264.0	15	88.4	1.4	9.1	NM	200.0
Fruehauf Trailer	FTC	1.8	28	609.0	21	441.2	21	488.9	-5	163.0	0.4	-68.3	NM	NEG
Hayes Wheels International (1)	HAY	5.8	14	2265.6	10	2109.8	10	408.7	2	159.6	1.4	7.8	NM	74.4
Modine Mfg. (3)	MODI	7.9	9	1520.1	14	1552.4	12	526.6	9	100.8	1.5	43.4	-10	18.3
Moog (9)	MOG-A	17.9	6	6211.7	2	4853.4	3	307.0	-4	106.4	5.8	-6.3	NM	NEG
Raytech	RAY	4.7	25	3993.3	5	3294.7	6	125.5	22	105.8	3.8	5.6	226	84.3
Schwitzer	SCZ	7.0	2	6982.0	1	6547.8	1	109.7	-1	109.7	6.4	-0.5	NM	NEG
Smith (A.O.)	SMC	6.5	7	650.0	20	698.2	18	1046.3	14	104.6	0.6	42.3	956	15.4
Standard Products (6)	SPD	13.6 **	34	1775.6	13	1427.8	13	657.0	11	85.7	2.1	38.8	NM	351
Superior Industries International	SUP	4.1	-9	1274.4	16	1070.1	16	325.3	19	101.7	1.3	45.4	59	9.0
Wabash National	WNC	1.2	250	691.2	19	501.8	20	289.1	52	162.6	0.4	14.5	30	8.5
Walbro	WALB	9.0	34	3930.4	6	2416.9	7	241.4	21	105.0	3.7	17.2	149	52.6
(C) TIRE & RUBBER														
GROUP COMPOSITE		352.2	-2	3429.4		3235.7		13551.0	8	131.9	2.6	953.7	76	36.9
Bandag	BDG	12.6	-14	5348.6	1	4741.6	1	591.4	1	250.8	2.1	130.7	2	9.6
Cooper Tire & Rubber	CTB	13.7	-2	1900.9	3	1867.4	3	1174.7	17	163.0	1.2	169.8	36	81
Goodyear Tire & Rubber	GT	325.9 **	-1	3499.1	2	3098.1	2	11784.9	8	126.5	2.8	653.1	125	49.9
3 CHEMICALS														
INDUSTRY COMPOSITE		5554.6	6	10460.9		6924.9		130169.0	2	245.1	4.3	7324.8	-19	75.8
Air Products & Chemicals (9)	APD	85.2	6	5875.9	27	5394.7	27	3217.3	10	221.9	2.6	407.0	13	20.9
American Cyanamid	ACY	565.8	15	17246.8	4	13609.2	7	5267.5	6	160.6	10.7	598.4	10	94.6
Arco Chemical	RCM	67.0	5	15548.9	6	14745.5	4	3098.0	9	719.0	2.2	322.0	1	20.8
Betz Laboratories	BTL	28.3	6	6796.9	21	6095.9	23	707.0	6	169.5	4.0	134.2	8	211
Cabot (9)	CBT	37.5	-1	6938.9	20	6346.4	20	1557.0	5	288.3	2.4	116.8	65	321
Cambrex	CBM	4.0	23	5424.9	29	6110.6	22	179.5	24	240.6	2.3	10.3	NM	39.3
Crompton & Knowles	CNK	10.1	5	4380.3	35	4343.9	32	517.7	15	224.2	2.0	68.3	21	14.8
Detrex	DTRX	2.5	-10	4965.7	32	4964.4	29	96.8	19	195.5	2.5	-4.1	NM	NEG
Dexter	DEX	42.2	0	8795.0	13	7305.4	14	951.4	1	198.2	4.4	73.1	553	57.7
Dow Chemical	DOW	1289.0	11	21009.6	1	17180.3	1	18971.0	1	309.2	6.8	872.0	-48	147.8
DuPont	DD	1277.0	-2	10222.9	12	9760.9	11	37208.0	-2	297.9	3.4	1811.0	-36	70.5
Engelhard	EC	44.6	-1	7401.7	16	6281.3	21	2397.2	-2	397.6	1.9	133.9	14	33.3
Ethyl	EY	73.8	7	11719.2	8	10288.5	9	2975.0	16	472.2	2.5	444.5	51	16.6
Ferro	FOE	15.4	-12	2345.8	44	2273.4	43	1097.8	4	166.8	1.4	97.7	380	15.8
First Mississippi (6)	FPM	4.4	6	3276.9	41	3960.7	35	524.8	-2	389.6	0.6	7.9	-6	56.0
Fuller (H. B.) (11)	FULL	20.4	18	3513.3	37	3020.1	40	933.7	9	161.0	2.2	60.9	29	33.4
G-I Holdings		23.5	18	5402.3	30	4166.7	33	1043.3	13	239.9	2.3	-239.0	NM	NEG
Goodrich (B. F.)	GR	84.0	8	6280.4	25	5353.7	28	2525.8	2	188.8	3.3	-16.3	NM	NEG
Grace (W. R.)	GRA	150.6	1	3415.0	39	2954.1	41	5518.2	-1	125.1	2.7	224.4	-43	671
Great Lakes Chemical	GLK	46.6	19	6654.1	22	7249.2	15	1496.5	14	213.8	3.1	361.0	13	12.9
Grow Group (6)	GRO	4.4	-1	2183.5	45	2171.5	44	416.2	1	208.1	1.1	17.0	NM	25.7
Hercules	HPC	70.2	-18	4553.3	34	4161.5	34	2864.9	-2	185.8	2.5	256.2	55	27.4
Indspec Chemical (3)		2.3	3	6268.7	26	5667.5	25	93.3	-6	258.4	2.4	-1.7	NM	NEG
International Flavors & Fragrances	IFF	71.1	14	16764.0	5	13900.0	5	1126.4	11	265.5	6.3	281.5	4	25.3
International Specialty Products	ISP	21.1	19	8665.3	14	7952.4	12	570.8	9	234.4	3.7	85.8	13	24.6
Lawter International	LAW	4.1	5	8439.2	15	7696.0	13	167.6	10	345.5	2.4	36.6	1	11.2
Loctite	LOC	26.2	16	7089.2	18	5600.1	26	608.0	8	164.8	4.3	95.1	-1	27.5
Lubrizol	LZ	91.2	14	19787.4	2	15212.8	3	1552.2	5	336.8	5.9	177.1	-1	51.5
MacDermid (3)	MACD	5.2	-10	6535.1	23	7198.1	17	145.0	-4	181.7	3.6	11.0	3	47.5
Minerals Technologies	MTX	14.4	7	7072.4	19	7072.4	18	394.0	10	194.1	3.6	34.3	33	41.8
Mississippi Chemical (6)		1.7	38	1450.6	47	1195.5	46	335.1	4	285.5	0.5	-10.8	NM	NEG
Monsanto	MTC	651.0	7	19262.1	3	15379.8	2	7763.0	-2	229.7	8.4	163.0	NM	NEG
Morton International (6)	MII	61.3	5	5729.0	28	NA	47	2043.9	7	191.0	3.0	231.2	8	26.5
Nalco Chemical	NLC	48.1	5	7157.4	17	7228.3	16	1374.5	11	204.7	3.5	238.3	9	20.2
NL Industries	NLI	11.0	22	3055.6	42	3220.1	38	893.5	6	248.2	1.2	-43.0	NM	NEG
Olin	OLN	39.0	-5	2888.9	43	3580.1	36	2376.0	4	176.0	1.6	88.0	NM	44.3
Petrolite (10)	PET	12.2	7	6350.1	24	6049.2	24	318.0	-2	165.2	3.8	24.8	11	49.2
Praxair	PX	62.0	7	3334.8	40	2492.7	42	2604.0	5	140.1	2.4	166.0	-21	37.4
Quaker Chemical	QCHM	11.1	11	11454.7	9	9990.1	10	212.5	11	218.6	5.2	19.5	13	57.2

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE				1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1992 \$ MIL.	CHANGE FROM 1991 %	R&D AS % OF PROFITS
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
Quantum Chemical	CUE	44.7	5	5120.3	31	4704.3	31	2324.2	-7	266.2	1.9	-190.8	NM	NEG
Xenene	RXN	6.4	2	4903.1	33	4764.3	30	415.0	-8	319.2	1.5	-39.3	NM	NEG
Chem & Haas	ROH	199.5	9	14427.6	7	13674.9	6	3072.0	11	222.1	6.5	261.0	9	76.4
Boots (9)	SCIT	5.9	16	3637.5	36	3058.0	39	412.8	6	252.8	1.4	26.2	488	22.7
Trans-Resources		2.9	3	1963.3	46	1999.9	45	345.4	12	230.2	0.9	23.3	15	12.7
CC Investors Holding (9)		31.4	-6	11418.2	10	11663.2	8	856.6	3	311.5	3.7	-29.8	NA	NEG
Carbide	UK	155.0	-1	10281.9	11	6457.9	19	4872.0	0	323.2	3.2	164.0	NM	94.5
Witco	WIT	29.2	5	3460.1	38	3540.0	37	1728.9	6	204.8	1.7	82.1	-25	35.6

CONGLOMERATES

INDUSTRY COMPOSITE		3434.5	3	4746.5		3010.9		130986.2	3	181.0	2.6	8510.9	7	40.4
MedSignal	ALD	320.0	-16	3583.4	6	3766.3	6	12042.0	2	134.8	2.7	702.0	NM	45.6
Altec Industries	COT	22.9 **	-3	2144.6	9	1926.8	9	1368.7	0	127.9	1.7	107.3	252	21.4
Argie International	FIGIA	14.8	14	1120.8	12	970.9	12	1172.8	-6	88.8	1.3	41.2	-5	35.9
General Electric	GE	1353.0	13	5857.1	3	4840.2	2	56274.0	4	243.6	2.4	6326.0	9	21.4
ITT	ITT	510.0 **	-5	4811.3	5	4743.1	3	21651.0	6	204.3	2.4	-498.0	NM	NEG
QLTV	QLTV	15.4	-4	860.3	13	748.7	13	3825.9	3	213.7	0.4	-89.9	NM	NEG
PLL	PLL	34.8	15	5435.5	4	4056.2	5	685.1	4	107.0	5.1	126.2	9	27.6
PRY	PRY	10.0	-3	2231.1	8	2301.0	8	568.3	10	126.3	1.8	21.9	190	45.9
PMI	PMI	41.3	32	1720.8	11	1288.0	11	2946.0	5	122.8	1.4	33.9	-79	121.8
ROK	ROK	498.7	1	6337.9	1	4999.4	1	10909.7	-9	138.7	4.6	778.4	-24	64.1
TDY	TDY	48.5	-5	2037.8	10	1813.4	10	2887.6	-10	121.3	1.7	87.0	NM	55.7
TXT	TXT	172.0	-10	3185.2	7	3369.1	7	8344.2	6	154.5	2.1	527.0	6	32.6
TRW	TRW	393.0	14	6131.0	2	4318.3	4	8311.0	5	129.7	4.7	348.0	NM	112.9

CONSUMER PRODUCTS

INDUSTRY COMPOSITE		2163.4	8	2297.1		3092.7		153921.8	7	163.4	1.4	18302.5	19	11.8
) APPLIANCES & HOME FURNISHINGS														
GROUP COMPOSITE		259.9	6	2267.0		1932.9		13985.3	5	122.0	1.9	267.0	-48	97.3
ACK	ACK	60.3	8	2566.0	3	2391.6	3	2549.8	5	108.5	2.4	-61.1	NM	NEG
DYA	DYA	1.2	16	1063.7	7	753.9	6	110.2	-2	97.5	1.1	4.5	44	26.8
FJQ	FJQ	3.0	NA	1761.8	5	1761.8	5	192.4	6	113.2	1.6	-25.0	NA	NEG
FLXS	FLXS	1.3	-2	632.4	9	592.2	10	157.9	8	77.4	0.8	2.6	-14	48.9
KBALB	KBALB	3.5	-27	455.3	11	545.3	11	617.3	11	80.8	0.6	60.7	24	5.7
LZB	LZB	5.5 **	-7	674.6	8	618.6	9	619.5	2	76.0	0.9	39.9	4	13.8
RIVL	RIVL	1.3	4	632.0	10	619.3	8	163.5	0	81.8	0.8	10.0	53	12.7
RAM	RAM	2.5 **	92	1353.2	6	1220.1	6	395.0	45	210.1	0.6	33.0	-27	7.7
TTC	TTC	26.9 **	2	8732.8	1	7358.3	1	635.2	-11	206.0	4.2	-34.9	NM	NEG
WHR	WHR	99.0	10	2570.1	2	2607.8	2	7301.0	8	189.5	1.4	359.0	20	27.6
ZE	ZE	55.4 **	2	2216.0	4	2128.0	4	1243.5	-6	49.7	4.5	-121.8	NM	NEG

OTHER CONSUMER GOODS

GROUP COMPOSITE		603.6	4	1001.2		1869.1		87535.1	7	144.8	0.7	12539.8	21	4.8
AMB	AMB	33.7	17	729.4	8	527.3	8	8840.3	4	191.3	0.4	1398.1	13	2.4
RGB	RGB	2.9	-3	1260.9	7	1083.5	7	101.8	-1	44.3	2.8	4.8	NM	61.0
BGL	BGL	2.5	10	NA	10	NA	10	572.4	-8	NA	0.4	-24.2	NM	NEG
ACCOB	ACCOB	12.4	-13	1742.3	6	2112.0	4	1550.8	1	218.4	0.8	58.6	600	21.1
IMG	IMG	1.9	55	4256.8	1	5118.5	1	58.2	-4	131.1	3.2	4.8	52	39.6
NKE	NKE	19.8	18	3046.2	3	2000.0	5	3405.2	13	523.9	0.6	521.8	13	3.8
PEP	PEP	102.0	3	274.9	9	326.7	9	21970.0	14	59.2	0.5	1898.8	14	5.4
MO	MO	410.0	4	2546.6	4	2117.2	3	50095.0	4	311.1	0.8	8608.0	23	4.8
SWV	SWV	1.2	6	2438.0	5	1162.6	6	58.0	9	116.0	2.1	2.1	NM	59.2
UFC	UFC	17.3	7	3203.7	2	2373.7	2	883.4	6	163.6	2.0	67.0	-27	25.8

PERSONAL CARE

GROUP COMPOSITE		1299.9	10	5761.1		4549.7		52401.4	10	232.2	2.5	5495.7	23	23.7
AVP	AVP	29.4	-1	989.9	17	1009.4	17	3809.9	6	128.3	0.8	311.7	-14	9.4
BLOCA	BLOCA	20.3	30	6143.9	5	4663.3	6	562.9	10	170.5	3.6	68.5	-1	29.6
CHT	CHT	1.2	-3	3311.8	13	3234.2	11	108.2	7	290.7	1.1	12.2	72	10.1
CHD	CHD	17.8	34	16324.2	1	10932.0	1	517.1	6	473.5	3.4	47.2	12	37.8

[LARRY, MOE & CURLY]

[RHYTHM & BLUES]

[MICROSOFT EXCEL, WORD, POWERPOINT & MAIL]

[ROY & TRIGGER]

[BACON, LETTUCE & TOMATO]

[FRED & ETHEL]

[WILBUR & ORVILLE]



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R&D SCOREBOARD

COMPANY

STOCK SYMBOL

R&D EXPENSES

SALES

PROFITS

	STOCK SYMBOL	1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE				1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1992 \$ MIL.	CHANGE FROM 1991 %	R& AS O PRO
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
Clorox (6)	CLX	44.7	-6	7707.8	4	7288.0	4	1717.0	4	296.0	2.6	210.9	145	21
Colgate-Palmolive	CL	125.8	10	4368.1	7	3883.1	8	7007.2	16	243.3	1.8	727.9	234	17
Del Laboratories	DLI	3.4	10	3467.0	11	2942.5	12	143.8	13	146.0	2.4	5.4	55	62
Ecolab	ECL	20.3	16	2743.4	14	1767.8	16	1004.8	9	136.1	2.0	91.6	8	22
Gillette	G	123.8	14	4006.5	9	3251.4	9	5162.8	10	167.1	2.4	829.7	20	14
Helene Curtis Industries (2)	HC	18.7	17	6026.1	6	4731.8	5	1019.9	18	329.0	1.8	35.6	119	52
Maybelline	MAY	3.9	63	2356.5	15	2356.5	14	307.6	21	185.8	1.3	2.7	653	146
Neutrogena (10)	NGNA	2.5	24	3442.9	12	2482.2	13	267.5	16	363.4	0.9	37.8	15	6
Procter & Gamble (6)	PG	861.0	10	8122.6	3	8137.5	3	29362.0	9	277.0	2.9	2885.0	7	29
St. Ives Laboratories	SWIS	1.1	10	2196.8	16	2301.7	15	149.2	24	293.8	0.7	7.3	20	15
Stepan	SCL	11.3	-2	8595.3	2	8697.9	2	435.8	5	330.9	2.6	17.4	-8	65
Sybron Chemicals	SYCM	2.9	6	4180.8	8	4141.1	7	141.6	8	206.4	2.0	13.1	37	21
Tambrands	TMB	11.8	7	3566.4	10	3249.6	10	684.1	4	207.3	1.7	191.9	46	6

6 CONTAINERS & PACKAGING

INDUSTRY COMPOSITE		144.6	22	1247.2		1825.6		16400.5	5	141.5	0.9	940.2	22	15.
Ball	BLL	14.6	21	1159.7	8	1159.7	8	2177.8	8	173.0	0.7	102.9	-1	14
Bemis	BMS	15.9	21	2061.2	6	1783.4	7	1181.3	3	152.8	1.4	93.7	7	17
Continental Can	CAN	14.6	248	4589.3	1	4589.3	1	511.2	65	160.7	2.9	3.6	-76	408
Crown Cork & Seal	CCK	16.7 **	4	819.5	11	862.9	10	3780.7	-1	185.5	0.4	261.0	21	6
Formica		3.5	-3	1125.2	9	1144.6	9	446.2	6	143.9	0.8	-0.6	NM	NE
Liqui-Box	LIQB	1.5	-35	1961.7	7	2341.0	4	116.1	8	153.2	1.3	18.8	15	7
Nashua	NSH	11.9	17	2869.2	4	1903.1	6	552.5	5	133.3	2.2	10.5	203	113
Owens-Illinois	OI	23.2	12	694.6	12	519.0	13	3672.1	4	109.9	0.6	187.9	212	12
Playtex Family Products Group		5.1	-6	3400.0	2	3297.5	2	384.5	-2	256.3	1.3	-10.2	NM	NE
Riverwood International	RVW	5.8	21	679.2	13	637.2	12	1138.0	13	133.9	0.5	76.8	-23	7
Sealright	SRCO	5.3	-2	3035.5	3	2842.5	3	263.8	2	151.1	2.0	26.9	-2	19
Sonoco Products	SONO	15.4	56	1041.9	10	843.3	11	1838.0	8	124.4	0.8	133.1	-16	11
West	WST	11.1 **	3	2703.4	5	2293.4	5	338.2	3	82.5	3.3	35.8	NM	31

7 ELECTRICAL & ELECTRONICS

INDUSTRY COMPOSITE		7961.7	7	6894.9		8766.9		133772.1	7	115.8	6.0	8815.2	13	90.
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(A) ELECTRICAL PRODUCTS

GROUP COMPOSITE		731.8	4	2773.5		3051.8		25976.2	5	98.5	2.8	2158.0	8	33.
Acme Electric (6)	ACE	5.6 **	-14	7997.2	2	6758.0	2	72.7	-9	103.0	7.8	1.1	NM	536
American Power Conversion	APCC	4.9	79	6730.5	3	5551.5	4	157.5	68	215.4	3.1	43.1	78	11
Baldor Electric	BEZ	11.3	14	3826.6	7	3174.4	9	318.9	11	108.0	3.5	25.0	28	45
Charter Power Systems (1)	CHP	2.2	19	1771.3	20	1542.4	21	134.1	11	109.9	1.6	-0.3	NM	NE
Coleman	CLN	3.1	-14	1062.1	26	1072.4	24	494.0	19	170.3	0.6	50.1	69	6
Computer Products	CPRD	9.0	46	6094.6	4	4070.9	6	114.8	38	78.1	7.8	3.5	NM	254
Emerson Electric (9)	EMR	244.8	3	3527.4	9	3201.9	8	7706.0	4	111.0	3.2	1043.9	4	23
Exide Electronics Group (9)	XUPS	7.6	5	5858.5	5	5672.1	3	213.4	11	164.1	3.6	8.1	NM	94
Franklin Electric	FELE	2.4	3	1176.1	23	1041.0	25	198.6	8	98.5	1.2	22.7	11	10
Genlyte Group	GLYT	3.5	-1	1139.3	24	1179.1	23	425.4	-1	137.8	0.8	-3.6	NM	NE
Hubbell	HUBB	13.8 **	62	2396.2	16	2396.2	12	786.1	4	136.5	1.8	130.7	1	10
Joslyn	JOSL	5.0	23	2521.5	15	2109.5	14	217.9	7	108.9	2.3	22.4	9	22
Juno Lighting (11)	JUNO	2.1	3	2664.9	13	2922.5	11	96.6	22	125.5	2.1	23.3	22	8
Kollmorgen	KOL	10.6	3	5638.2	6	4352.0	5	194.9	-3	103.2	5.5	-9.5	NM	NE
Kuhlman	KUH	1.2	11	1339.5	22	1885.4	17	121.7	-4	141.6	0.9	10.3	-16	11
Lamson & Sessions	LMS	3.3	10	1952.7	18	1190.8	22	283.8	-9	167.9	1.2	-20.3	NM	NE
Litelfuse	LFUS	3.8	7	1986.5	17	1986.5	16	149.8	10	78.0	2.5	3.8	-98	100
MagneTek (6)	MAG	17.6	68	1135.5	25	739.7	26	1229.8	8	79.3	1.4	52.4	-15	33
Powell Industries (10)	POWL	2.0	24	2541.5	14	1657.8	19	137.0	-7	175.0	1.5	11.9	6	16
Raychem (6)	RYCH	139.4	1	12457.7	1	10802.6	1	1296.3	4	115.9	10.8	20.8	NM	668
Reliance Electric	REE	40.0	18	2818.7	10	2097.0	15	1553.0	2	109.4	2.6	95.0	32	42
Robbins & Myers (8)	ROBN	1.2	4	1900.3	19	1762.9	18	75.6	-4	121.5	1.6	9.8	1	12
Thomas & Betts	TNB	21.0	40	2759.1	11	3425.3	7	1051.1	86	138.3	2.0	69.8	3	30
Thomas Industries	TII	12.5 **	3	3581.6	8	2963.7	10	420.8	3	120.9	3.0	0.2	-97	5025
Westinghouse Electric	WX	162.0	-7	1485.6	21	1623.4	20	8447.0	-1	77.5	1.9	536.0	38	30
Woodhead Industries (9)	WDHD	2.0 **	17	2671.5	12	2128.1	13	79.5	8	104.1	2.6	7.8	49	26

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1991 \$ MIL.	1992 %	PER EMPLOYEE				CHANGE FROM 1991 \$ MIL.	1992 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991 \$ MIL.	1992 %	R&D AS % OF PROFITS
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
B) ELECTRONICS														
GROUP COMPOSITE		3114.6	10	7407.0		6804.1		53677.5	7	127.7	5.8	2421.8	-14	128.6
EL Industries (2)	AELNA	1.7	8	1331.8	35	1164.8	35	140.1	-3	107.1	1.2	16.1	494	10.8
mpex	AMPX	46.0	-3	17037.0	5	16451.8	5	429.9	-18	159.2	10.7	-68.9	NM	NEG
ndrew (9)	ANDW	20.2	-1	6630.3	15	6184.4	13	442.0	6	145.4	4.6	40.0	11	50.4
ritech	ARIT	3.1	-9	7270.4	13	5424.9	18	60.6	-28	141.2	5.1	2.1	18	149.7
ydin	AYD	5.3	8	3767.9	27	3580.2	25	145.2	-8	103.7	3.6	12.3	-29	43.0
alifornia Microwave (6)	CMIC	5.0	78	3824.1	26	2907.9	29	199.0	12	151.6	2.5	8.0	-37	62.9
heckpoint Systems	CHEK	4.5	36	4641.9	20	4028.9	22	72.2	36	74.5	6.2	4.9	670	92.0
obra Electronics	COBR	14 **	0	5857.7	17	5108.3	19	117.7	-13	492.6	1.2	-8.7	NM	NEG
mpression Labs	CLIX	8.1	91	22960.5	4	16724.0	4	107.8	48	304.4	7.5	-3.3	NM	NEG
ubic (9)	CUB	5.2	78	1665.2	34	1318.5	33	344.2	12	111.0	1.5	10.0	-55	51.6
igital Microwave (3)	DMIC	12.9	2	26232.6	3	20365.6	3	90.0	-34	183.7	14.3	-23.9	NM	NEG
DO	EDO	5.3	40	4412.4	22	3193.9	27	125.8	-14	105.0	4.2	7.4	193	71.3
ectro Scientific Industries (5)	ESIO	9.2	3	16770.9	6	14100.3	6	58.2	-13	105.8	15.9	-6.9	NM	NEG
eneral Instrument	GIC	58.1	26	6320.5	16	5845.3	15	1074.7	NA	116.8	5.4	-26.5	NA	NEG
M Hughes Electronics	GMH	680.5	7	7620.4	12	6511.0	12	12169.0	7	136.3	5.6	-126.7	NM	NEG
armon Industries	HRMN	3.5	-11	4235.6	24	4557.9	20	81.9	15	98.0	4.3	7.1	54	50.0
arris (6)	HRS	122.1	-10	4314.5	23	4239.6	21	3004.0	-1	106.1	4.1	125.0	NM	97.7
nogo (2)	KNO	3.1	17	3915.1	25	3116.6	28	80.7	1	102.3	3.8	-13.6	NM	NEG
iton Industries (7)	LIT	180.8	6	3652.5	28	2844.3	31	5692.6	9	115.0	3.2	329.8	80	54.8
iral (3)	LOR	122.9	17	5586.5	19	5425.6	17	2881.8	36	131.0	4.3	239.7	47	51.3
vrance Electronics (7)	LEIX	1.5	22	2688.9	32	3260.5	26	68.4	28	120.2	2.2	2.7	NM	56.7
icrodyne (9)	MCDY	3.9	407	5731.6	18	5431.5	16	72.7	29	107.2	5.3	-4.6	NM	NEG
otorola	MOT	1306.0	15	12205.6	7	9288.4	7	13303.0	17	124.3	9.8	800.0	31	163.3
detics (3)	O A	5.6	11	9592.1	9	8097.0	10	70.3	-3	119.9	8.0	0.1	-95	7396.1
ualcomm (9)	QCOM	25.2	11	29044.9	2	32855.3	1	106.4	18	122.6	23.7	-3.5	NM	NEG
adiation Systems (6)	RADS	1.7	195	1870.1	33	977.3	36	127.1	10	142.4	1.3	16.9	25	9.9
zytheon	RTN	289.9	4	4536.3	21	3802.2	24	9058.2	-2	141.8	3.2	956.0	10	30.3
l Systems (6)	SCIS	33.8 *	-7	3551.1	29	3844.0	23	1045.4	-7	109.9	3.2	1.0	-57	3327.9
nsormatic Electronics (5)	SRM	9.5	40	3288.3	31	2851.1	30	309.9	30	107.3	3.1	41.0	31	23.2
anford Telecommunications (3)	STII	7.8	6	8701.8	11	8314.1	8	94.9	-7	105.2	8.3	5.1	-15	153.9
l International (9)	TCII	2.1	-22	6996.6	14	6027.2	14	62.4	9	212.4	3.3	0.2	-73	1239.2
ch-Sym	TSY	6.1	18	3347.1	30	2488.1	32	179.6	2	99.1	3.4	10.1	-27	59.9
kelec	TKLC	16.2	49	43732.4	1	29620.3	2	58.1	11	157.0	27.9	-6.7	NM	NEG
nited Industrial	UIC	2.6	-6	1005.0	36	1225.1	34	251.3	-3	96.7	1.0	10.1	-53	25.9
arian Associates (9)	VAR	76.7	-8	9463.3	10	7935.8	11	1288.0	-7	159.0	6.0	62.4	-33	122.9
atkins-Johnson	WJ	27.2	0	10840.6	8	8117.4	9	264.4	-5	105.3	10.3	7.2	NM	377.2
C) INSTRUMENTS														
GROUP COMPOSITE		1331.4	6	6288.6		8558.0		24457.7	4	115.5	5.4	1367.2	17	97.4
llen Group	ALN	4.7	238	1553.3	43	604.9	45	296.2	13	98.7	1.6	23.7	29	19.7
metek	AME	14.7	21	2371.0	41	2496.8	39	769.6	8	124.1	1.9	66.7	27	22.0
nalagic (7)	ALOG	22.0	11	19456.6	4	15355.7	7	145.1	6	128.4	15.2	13.3	-22	164.9
ppled Biosystems (6)	ABIO	25.2	21	20030.2	3	16927.5	3	181.8	11	144.4	13.9	-14.1	NM	NEG
utoclave Engineers (5)	ACLV	1.7	-26	2378.1	40	2983.9	38	80.2	-1	109.9	2.2	2.4	NM	73.7
adger Meter	BMI	4.1	2	4921.1	34	4277.0	35	82.1	5	98.1	5.0	1.2	-52	355.1
ackman Instruments	BEC	85.9 **	5	12487.3	15	10800.6	15	908.8	6	132.1	9.5	70.7	11	121.5
l Electronics (9)	BEII	5.6 **	-22	3877.6	37	3885.3	37	156.6	7	107.7	3.6	11.2	15	50.5
o-Rad Laboratories	BIO A	34.7	23	13862.0	12	10847.8	14	330.3	6	132.1	10.5	27.5	104	126.0
herent (9)	COHR	23.7	-9	17030.9	6	14446.2	9	215.4	4	154.5	11.0	5.9	75	400.8
aniel Industries (9)	DAN	4.4	33	2587.6	39	1801.2	41	210.4	4	123.7	2.1	13.0	NM	34.0
ata I/O	DAIO	8.5	1	16506.8	8	16681.5	4	69.3	3	134.1	12.3	4.3	-12	197.9
ionex (6)	DNEX	8.3	10	12812.1	14	11931.6	13	96.4	8	149.7	8.6	22.5	3	36.7
dec (3)	ELDC	11.9	3	8941.9	19	5557.4	28	109.9	-11	82.9	10.8	-3.4	NM	NEG
ICO Electronics (9)	ESE	13.2	15	2642.2	38	2322.5	40	406.3	-16	81.3	3.3	2.0	NM	669.3
terline Technologies (10)	ESL	13.4 **	-19	4335.8	35	4513.2	33	304.8	-13	98.3	4.4	8.1	-32	165.0
schler & Porter	FP	12.4	-3	5616.7	31	4750.6	31	231.3	-2	104.8	5.4	5.7	NM	215.7
uke (John) Mfg. (9)	FKM	21.4	2	10074.7	18	9410.0	18	271.8	13	127.7	7.9	21.2	516	101.2
elman Sciences (7)	GSC	3.2	-13	4172.5	36	5065.5	30	81.5	6	104.8	4.0	-1.1	NM	NEG
enRad	GEN	20.3	-16	14877.5	11	16248.1	6	142.6	-9	104.6	14.2	-7.7	NM	NEG

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R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS			
		CHANGE FROM 1989		PER EMPLOYEE				CHANGE FROM 1989		PER EMPLOYEE	R&D AS % OF SALES	CHANGE FROM 1989		R&D AS % OF PROFIT	
		1990 \$ MIL	%	1989 \$	1990 \$	1989-90 \$	1989-90 \$/EMP	1990 \$ MIL	%	\$ THOUS		1990 \$ MIL	%	1989 \$	
Hoch 4	HACH	5.0	10	576.70	24	554.5	20	84.7	17	96.5	5.8	1.1	26	40	
Hamamatsu	HMT	5.8**	10	543.9	13	538.9	12	54.2	30	107.9	2.5	2.3	-34	34.9	
Moneywell	HON	21.8	4	504.8	30	489.7	20	522.8	0	112.3	5.0	534.7	25	49	
Hunts 10	HUNC	3.7	32	637.8	27	579.6	26	87.8	1	150.1	4.0	-6.3	NM	NM	
Imco Industries	IMC	16.9	7	523.9	42	549.2	40	95.3	-9	122.1	1.8	-80.5	NM	NM	
Instron	INX	8.1	10	507.7	22	504.5	21	116.3	-8	116.9	7.0	5.7	-28	143	
Johnson Controls 9	JCI	55.0	29	1410.8	44	1480.1	40	515.5	13	110.3	1.9	227.7	29	29	
K-Tron International	KTR	5.1	40	604.9	28	598.7	26	118.0	46	146.7	4.3	6.3	18	82	
Kennedy Instruments 9	KI	5	12	542.9	7	507.9	5	94.7	-5	99.4	10	-10.4	NM	NM	
KL Instruments	KLAC	4.0	70	501.9	5	523.4	5	56.0	5	56.0	2.4	-16.3	NM	NM	
LTX 7	LTX	119.8**	0	1019.9	1	1088.4	1	147.1	-16	157.6	4.7	-26.8	NM	NM	
Measurix 11	MIS	10.8	10	592.8	30	520.9	20	252.6	-7	109.0	8.0	1.7	200	1228	
Mechanical Technology 9	MTI	2.9	10	519.9	20	427.7	34	70.0	8	109.4	4.1	0.4	NM	703	
Milipore	MIL	55.0	8	1254.1	16	974.9	17	771.0	2	134.5	8.4	81.5	-38	106	
Moore Products	MPR	4.8	18	519.0	20	580.7	20	96.4	-1	80.3	0.1	-2.1	NM	NM	
MTS Systems 9	MTS	10.0	18	710.8	26	668.6	20	161.0	2	114.7	6.0	6.5	-55	155	
Newport	NEP	1.0	51	513.9	24	470.9	19	87.8	47	117.4	5.9	-14.7	NM	NM	
Oak Industries	OIX	1.4	50	504	40	570.9	46	48.2	8	40.5	7	8.7	410	15	
Optical Coating Laboratory 10	OCL	5.0	16	517.0	1	546.9	17	5.0	7	5.0	7	9.6	502	85	
Perkin-Elmer 7	PER	52.0**	16	1019.0	17	976.0	16	91.7	4	149.7	6.8	78.2	904	75	
Spartan 6	SPA	1.7	11	502.0	45	95.7	44	248.4	14	94.4	10	118	57	20	
Tektronix 5	TSE	29.8	-12	1452.70	10	1178.1	11	1297.8	3	114.8	13.0	30.9	-50	54.7	
Teradyne	TSE	62.0**	0	551.5	9	1409.4	10	309.5	4	129.2	11.7	26.1	29	20.7	
Thermo Electron	TEL	18.7	48	515.7	11	559.7	16	947.0	8	116.9	4.1	100.0	29	27	
Thermo Instrument Systems	TIS	16.1	50	710.1	13	587.8	14	423.2	25	115.9	6.2	87.0	3	45	
Trimble Navigation	TNA	28.5	-16	551.1	1	543.8	1	27.8	-16	71.9	11.4	-23.7	NM	NM	

(D) SEMICONDUCTORS

GROUP COMPOSITE		2783.8	710762.7	13726.7	29660.7	12	114.7	9.4	2868.1	59	97			
Adaptec 3	ADT	57.8	26	569.0	4	540.8	15	150.0	17	152.0	11.7	19.5	14	89
Advanced Micro Devices	AMD	107.9	7	1070.0	8	1703.7	18	54.6	20	131.5	15.0	27.6	87	89
Alpha Industries 3	ATI	1.1	92	1036.9	17	904.0	40	7.0	7	84.0	1.9	0.0	-90	145
Attera	ATT	1.8	1	1017.8	8	1149.3	8	1.7	-6	111.7	5.6	18.0	-105	87
AMP	AMP	173.0**	2	1080.7	27	145.8	25	133.7	8	133.0	8.0	479.1	10	56
Amphenol	APH	13.7**	-4	1404.8	21	1403.9	40	457.7	-6	80.1	0.0	11.4	NM	100
Analog Devices 10	ADI	88.2	-1	1643.6	23	1640.4	20	557.8	6	109.1	15.5	19.0	100	464
Atmel	ATM	18.0	21	1645.6	20	1789.1	16	109.8	16	141	10.1	19.9	34	91
Augat	AUG	4.0	19	487.8	15	424.8	18	36.7	28	42.7	5.0	9.8	NM	94
Brooktree 9	BTR	4.0	8	1000.8	7	1033.8	7	91.0	1	169.1	11.7	17.0	20	111
Burr-Brown	BRN	18.1	19	1517.4	14	1787.8	14	10.9	4	16.8	0.4	1.7	NM	154
Chips & Technologies 6	CTI	46.7	-10	861.74	1	711.88	1	14.1	17	166.7	10.4	-80.8	NM	NM
CTS	CTS	6.7	8	1403.1	44	924.7	47	227.4	-1	50.5	2.7	1.8	-39	159
Cypress Semiconductor	CYP	55.0	-9	2627.9	4	2658.7	5	292.0	-5	178.9	30.9	-30.9	NM	NM
Dallas Semiconductor	DS	1.8	10	2077.4	14	2163.8	11	100.0	16	170.6	10.8	29.0	26	57
Dicon Electronics 9	DIC	1.9	86	1420.0	40	960.5	46	70.4	-4	45.6	2.6	-12.7	NM	NM
Electromagnetic Sciences	EMS	7.1	4	1740.1	18	816.1	17	7.8	-2	11.6	11.5	1.8	-84	26.7
Exar 3	EXR	1.7	10	1140	16	617.8	14	19.8	14	179.1	7.7	1.7	48	86
GT	GT	13.7**	16	100.8	29	178.3	2	14.8	14	18.9	0.1	1.0	11	25
Integrated Device Technology 3	IDT	5.1	1	1241.8	3	987.9	3	212.7	2	41.9	26.7	-34.8	NM	NM
Inte	INT	74.8	26	3603.9	9	1800.7	40	5844.0	10	106.5	1.0	168.5	31	49
International Rectifier 6	IR	1.4	22	1113.0	24	1043.5	28	26.8	8	38.5	3.5	11.5	-42	89
Kemet 3	KMT	5.0**	0	1215.5	47	1158	44	264.0	7	24.9	2.7	-35.4	NM	NM
Lattice Semiconductor 3	LSC	1.3	2	4766.6	3	1884.6	4	7.0	0	270.3	1.7	5.7	8	79
Linear Technology 6	LTC	1.1	1	1119.6	21	1002.1	20	19.4	17	289.1	1.0	18.3	47	20
LSI Logic	LSI	75.1	-10	10147.8	3	6239.6	20	117.0	-10	179.1	1.8	-499.9	NM	NM
Maxim Integrated Products 6	MXI	1.1	19	2118.79	7	1704.7	17	97.0	8	104.8	3.1	21.0	35	60
Media Vision	MVI	1.4	10	2170.0	1	1111.0	1	69.9	107	606.7	5.0	1.7	NM	95
Memotech Electronics 4	MET	7.7	10	1070.6	26	1069.0	36	148.1	0	75.9	8.1	10.6	8	50
Micron Technology 8	MTC	47.6	10	1067.7	26	816.5	28	596.0	9	117.7	9.4	9.6	-10	495
Micronics Computers 9	MCR	16.0	-14	1066.4	1	1004.8	19	156.0	6	565.0	1.4	1.0	-10	50
Microsem 9	MRO	10	-18	1474.7	51	704.3	40	88.7	7	40.4	1.1	2.4	-27	44

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1991 \$ MIL	1991 %	PER EMPLOYEE				CHANGE FROM 1991 \$ MIL	1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1992 \$ MIL	CHANGE FROM 1991 %	R&D AS % OF PROFITS
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
olex (6)	MOLX	45.4	18	6070.0	34	5111.8	34	776.2	10	103.7	5.9	117.4	0	38.7
ational Semiconductor (5)	NSM	192.1	-3	7062.5	32	7420.3	31	1717.5	1	63.1	11.2	117.0	NM	NEG
lse Engineering (6)	PLSE	2.0	54	1346.5	46	1012.2	45	62.2	-4	41.0	3.3	9.2	-22	22.3
ad-Rite (9)	RDRT	10.6	70	1404.8	45	1942.8	41	389.4	120	51.8	2.7	58.8	109	18.0
ogers	ROG	8.2	-15	3262.7	38	2955.3	39	172.4	-5	68.6	4.8	-28.0	NM	NEG
eldahl (8)	SHEL	2.2	19	2171.0	42	1525.1	43	84.0	-3	84.0	2.6	0.2	-96	960.6
erra Semiconductor	SERA	14.6	16	39272.2	5	40223.3	3	92.3	7	248.7	15.8	13.3	-2	109.5
iconix	SILI	8.3	-10	6942.6	33	7985.8	29	156.2	11	129.9	5.3	4.6	NM	180.9
lectron (8)	SLR	3.1	80	1051.0	48	845.0	48	406.9	53	136.6	0.8	24.1	47	13.0
unward Technologies (6)	SUNT	3.6 **	-52	1627.3	43	3053.6	37	75.0	25	33.8	4.8	4.2	NM	86.5
as Instruments	TXN	470.0	-11	7758.7	31	7437.9	30	7440.0	8	122.8	6.3	369.0	NM	127.4
dent Microsystems (6)	TRID	5.6	140	59968.1	2	59968.1	2	67.4	141	716.9	8.4	18.5	317	30.5
itrode (1)	UTR	6.4	-10	8346.9	29	6009.4	33	87.4	-19	114.8	7.3	9.1	NM	69.7
cor	VICR	4.4	30	8044.4	30	7325.0	32	63.8	15	118.0	6.8	19.2	5	22.7
shay Intertechnology	VSH	7.1	3	496.5	50	654.9	50	664.2	50	46.1	1.1	37.9	39	18.9
SI Technology	VLSI	40.9	43	17204.7	21	13027.6	22	428.5	4	180.1	9.6	-31.6	NM	NEG
cor	XICO	22.4	-6	28236.5	10	18876.0	14	93.0	-1	117.0	24.1	-29.5	NM	NEG
inx (3)	XLNX	17.7	42	36657.7	6	35181.3	6	135.8	39	281.8	13.0	33.8	31	52.3
og	ZLOG	16.3	36	11219.5	25	9467.3	26	145.7	32	100.5	11.2	25.0	62	65.0

FOOD														
DUSTY COMPOSITE		587.9	8	1338.2	2719.3	79990.2	4	181.3	0.7	6092.2	-6	9.7		
way (6)		1.8	-22	214.3	20	155.3	20	3261.2	-6	388.2	0.1	-57.2	NM	NEG
merican Crystal Sugar (8)		6.0	5	NA	22	NA	22	545.4	12	NA	1.1	10.0	30	60.0
merican Maize-Products	AZEA	3.1	-7	1461.0	9	1385.1	8	542.2	2	251.7	0.6	32.9	-17	9.6
cher Daniels Midland (6)	ADM	14.6	-18	1079.6	13	885.5	13	9231.5	9	682.6	0.2	759.6	6	1.9
arden	BN	30.8	2	735.1	14	643.7	15	7142.6	-1	170.5	0.4	-252.3	NM	NEG
mpbell Soup (7)	CPB	59.7	6	1380.2	10	1108.0	11	6263.2	1	144.8	1.0	799.3	18	7.5
C International	CPC	45.7	15	1202.6	12	1058.5	12	6599.0	7	173.7	0.7	744.5	7	6.1
kalb Genetics (8)	SEEDB	42.2	10	18119.4	2	14564.8	2	300.2	9	128.9	14.1	14.4	-40	293.1
l Monte Foods (6)		6.0	-33	NA	23	NA	23	1431.0	0	NA	0.4	-4.0	NM	NEG
mland Industries (8)		3.3	2	427.9	18	424.3	18	3429.3	-6	439.7	0.1	70.5	41	4.7
neral Mills (5)	GIS	62.1	9	556.9	17	523.6	17	7777.8	9	69.8	0.8	844.5	10	7.4
nnaford Brothers	HRD	3.3	11	224.2	19	1101.1	21	2066.0	3	142.5	0.2	81.7	12	4.0
rshey Foods	HSY	24.2	6	1613.5	7	1481.8	7	3219.8	11	214.7	0.8	401.0	10	6.0
rmel Foods (10)	HRL	5.8	2	696.4	15	616.8	16	2813.7	-1	339.0	0.2	151.1	10	3.8
perial Holly (3)	IHK	3.0	52	660.2	16	660.2	14	688.6	-4	150.7	0.4	-5.5	NM	NEG
ernational Multifoods (2)	IMC	1.5	-25	179.8	21	211.8	19	2223.9	-3	266.6	0.1	66.1	-2	2.3
logg	K	36.6	5	2211.3	6	2272.4	5	6190.6	7	374.0	0.6	1070.4	9	3.4
Cormick (11)	MCCRK	11.8	4	1480.5	8	1265.3	9	1471.4	3	183.9	0.8	148.2	20	8.0
west (8)	PENW	3.5	17	8046.2	3	7279.4	3	126.0	14	290.9	2.8	10.1	-19	34.4
neer Hi-Bred International (8)	PHYB	92.2	17	18375.4	1	15869.4	1	1261.8	12	251.6	7.3	238.7	42	38.6
aker Oats (6)	OAT	52.1	18	2469.2	5	1959.9	6	5576.4	2	264.3	0.9	421.5	2	12.4
ston Purina (9)	RAL	77.4	5	1306.9	11	1222.8	10	7752.4	5	130.9	1.0	542.1	-16	14.3
urthington Foods	WFDS	1.2	5	2546.6	4	2597.6	4	76.5	9	165.9	1.5	4.6	10	25.5

FUEL														
DUSTY COMPOSITE		2751.7	-5	4119.5	3090.1	367006.8	-1	549.4	0.8	19920.9	-15	13.8		
OIL, GAS & COAL														
OUP COMPOSITE		2091.3	-7	4454.8	3222.3	344020.1	-1	732.8	0.6	18905.5	-13	11.1		
oco	AN	300.0	-9	6383.8	3	5677.0	3	25280.0	0	537.9	1.2	1003.0	-51	29.9
iland Oil (9)	ASH	14.3	38	424.1	15	413.8	15	9592.1	3	284.8	0.1	-158.1	NM	NEG
antic Richfield	ARC	89.0	-25	3320.9	9	4279.5	6	17503.0	3	653.1	0.5	1907.0	64	4.7
evron	CHV	229.0	-8	4650.2	5	4281.0	5	37464.0	3	760.8	0.6	3463.0	54	6.6
on	XON	624.0	-8	6568.4	2	6112.8	1	103160.0	0	1085.9	0.6	7534.0	-13	8.3
a	FI	11.3	4	3353.5	8	2896.2	9	3393.5	2	1007.3	0.3	20.1	-62	56.2
r-McGee	KMG	17.0	6	2898.1	10	2242.2	10	3382.0	3	576.5	0.5	-64.0	NM	NEG
bil	MOB	326.0	3	5117.7	4	4159.9	7	56877.0	1	892.9	0.6	2875.0	-29	11.3
oco Industries	NC	25.7	15	2448.3	11	1681.0	11	1481.5	8	141.1	1.7	43.5	45	59.1
idental Petroleum	OXY	28.0	-7	1186.4	12	770.2	13	8494.0	-11	359.9	0.3	325.0	-67	8.6
lips Petroleum	P	96.0	-19	4486.6	6	5262.1	4	11933.0	-5	557.7	0.8	511.0	13	18.8
	SUN	12.0	-20	843.9	13	824.6	12	8626.0	-9	606.7	0.1	-432.0	NM	NEG

R&D SCOREBOARD

COMPANY

STOCK SYMBOL

R&D EXPENSES

CHANGE FROM 1991 %	PER EMPLOYEE			
	1992 \$ MIL	1992 \$	1988-92 RANK	AVG. 1988-92 \$

SALES

CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES
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PROFITS

CHANGE FROM 1991 %	R&D AS % OF PROFIT
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Texaco	TX	250.0	0	6652.1	1	5695.8	2	36812.0	-1	979.5	0.7	1323.0	-8	18
Unocal	UCL	50.0	-21	3404.4	7	3268.8	8	8895.0	-8	605.6	0.6	354.0	62	14
USX-Marathon Group	MRO	19.0	-14	833.0	14	768.8	14	11127.0	-9	487.8	0.2	201.0	209	9

(B) PETROLEUM SERVICES

GROUP COMPOSITE		660.4	2	3326.8		2932.8		22986.7	-3	115.8	2.9	1015.4	-42	65.0
Baker Hughes (9)	BHI	48.8	5	2490.3	7	1884.0	8	2538.5	-10	129.5	1.9	32.0	-85	152
Baroid	BRC	18.0	29	3913.0	3	2525.1	5	614.5	0	133.6	2.9	28.1	6	64
BJ Services (9)	BJS	4.9	-16	1883.7	9	2024.6	6	330.0	-15	128.0	1.5	-4.2	NM	NEC
CBI Industries	CBH	11.7	16	831.6	12	641.4	12	1666.1	4	118.2	0.7	145.5	6	8
Digicon (7)	DGC	3.9	5	3421.1	6	3221.6	4	111.4	18	97.7	3.5	5.9	NM	66
Dresser Industries (10)	DI	11.0	17	401.5	13	489.5	13	3797.0	-4	138.6	0.3	143.5	-40	7
Halliburton	HAL	112.1	-4	1619.9	10	1528.6	10	6525.4	-6	94.3	1.7	-131.3	NM	NEC
Oceaneering International (3)	OII	4.7	10	3899.2	4	1965.0	7	168.3	14	140.2	2.8	22.0	-1	21
Schlumberger	SLB	421.2 **	3	8259.5	1	7622.8	2	6331.5	3	124.1	6.7	748.0	-24	56
Smith International	SII	6.2 **	-30	3454.4	5	4841.3	3	210.7	-16	117.0	3.0	0.2	NM	3960
Varco International	VRG	9.8	-9	8195.3	2	7981.7	1	172.5	-20	144.0	5.7	0.9	-95	1152
Weatherford International	WII	2.6	11	1243.7	11	1310.0	11	205.9	0	98.4	1.3	19.9	NM	13
Western Co. of North American	WSN	5.5	4	2102.4	8	1727.9	9	315.0	0	120.4	1.7	5.1	NM	107

10 HEALTH CARE

INDUSTRY COMPOSITE	11804.0	18	16384.7		15220.3		122187.5	12	169.5	9.7	22728.4	12	51.0
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(A) DRUGS & RESEARCH

GROUP COMPOSITE		8612.2	18	22121.3		24407.2		74628.8	11	191.4	11.5	15760.4	11	54.0
A. L. Laboratories	BMD	14.3	17	7500.0	32	5613.9	31	295.1	15	155.3	4.8	17.6	895	81
Allergan	AGN	90.8	22	17603.7	19	12680.9	20	897.7	7	174.0	10.1	144.0	NM	63
ALZA	AZA	18.3 *	58	17086.8	21	21140.0	13	229.3	54	214.1	8.0	105.5	NM	17
American Home Products	AHP	552.5	28	10906.6	27	8026.6	30	7873.7	11	155.4	7.0	1724.1	-2	32
Amgen	AMGN	182.3 *	51	78071.5	4	59134.3	6	1093.0	60	468.1	16.7	563.1	257	32
Barr Laboratories (6)	BRL	7.4	26	19829.3	18	11247.9	23	100.8	7	268.8	7.4	-3.5	NM	NEC
Biocraft Laboratories (3)	BCL	8.8	45	12075.9	26	9374.9	28	92.3	11	127.2	9.5	-11.2	NM	NEC
Biogen	BGEN	60.4 *	36	178168.0	1	117840.5	1	123.7	101	365.0	48.8	39.9	436	151
Bristol-Myers Squibb	BMJ	1083.0	10	20589.4	16	16316.8	17	11156.0	6	212.1	9.7	1987.0	-29	54
Carter-Wallace (3)	CAR	52.0	6	12459.2	25	10519.9	25	673.4	6	161.5	7.7	67.3	-12	77
Centocor	CNTG	94.8	41	105291.0	3	105291.0	2	76.2	43	84.7	124.3	-194.1	NM	NEC
Chiron	CHIR	142.9 *	79	76554.3	5	77953.0	4	174.0	75	93.2	82.1	-92.4	NM	NEC
Diagnostic Products	DP	12.8	-5	15383.2	23	14642.2	19	103.5	15	123.9	12.4	23.7	2	54
E-Z-EM (5)	EZEM	7.0	-1	6859.9	33	5503.9	32	88.5	18	86.7	7.9	5.4	NM	129
Forest Laboratories (3)	FRX	17.8 *	55	15574.9	22	11317.6	22	240.4	36	210.7	7.4	77.5	41	22
Genentech	GNE	270.1	27	115893.1	2	87879.7	3	496.2	8	212.9	54.4	21.9	-53	1231
Genetics Institute (11)	GENI	47.0	3	66572.1	6	71433.4	5	87.7	6	124.3	53.6	-37.0	NM	NEC
Genzyme	GENZ	15.7	48	10563.3	29	11510.9	21	219.1	80	147.4	7.2	-13.2	NM	NEC
ICN Pharmaceuticals	ICN	10.7	63	1762.8	35	2969.6	34	551.8	20	90.8	1.9	-40.3	NM	NEC
Immunex	IMNX	32.7	63	55033.6	7	31506.0	8	61.8	17	103.8	53.0	-77.6	NM	NEC
IVAX	IVX	19.5	63	9257.8	30	8662.0	29	451.0	102	213.8	4.3	54.2	222	36
Life Technologies	LTK	13.9	7	10572.3	28	9529.0	27	197.6	15	150.4	7.0	24.4	27	57
Lilly (Eli)	LLY	924.9	21	28723.6	12	23769.5	11	6167.3	8	191.5	15.0	1182.3	-37	78
Marion Merrell Dow	MKC	465.0	18	47410.3	8	40568.0	7	3320.0	16	338.5	14.0	1017.0	14	45
Maxwell Laboratories (7)	MXWL	5.9	34	8492.9	31	5144.6	33	90.2	4	128.8	6.6	-6.7	NM	NEC
Medco Containment Services (6)	MCCS	1.6	18	230.2	38	249.4	38	1813.2	35	268.6	0.1	170.6	78	0
Merck	MRK	1111.6	13	28947.9	11	24202.0	10	9662.5	12	251.6	11.5	3595.8	13	30
Mylan Laboratories (3)	MYL	13.5	72	NA	39	NA	39	212.0	61	NA	6.4	97.3	94	13
Perrigo (6)	PRGO	3.4	116	1063.7	37	920.8	37	409.8	46	129.2	0.8	45.1	133	7
Pfizer	PFE	863.2	14	21208.8	15	15520.2	18	7230.2	4	177.6	11.9	1534.8	63	56
Purepac (6)	PURE	5.8	54	20010.3	17	17547.1	15	64.5	23	221.8	9.0	177	111	32
Rhone-Poulenc Rorer	RPR	521.3	17	22764.2	14	16795.5	16	4095.9	7	178.9	12.7	583.7	20	89
Scherer (R. P.) (3)	SHR	8.5	15	3401.6	34	2576.8	35	337.8	13	135.9	2.5	29.3	61	28
Schering-Plough	SGP	521.5	22	24715.6	13	18739.3	14	4055.7	12	192.2	12.9	953.9	11	54
SPI Pharmaceuticals	SPI	7.8	60	1429.9	36	958.2	36	476.1	31	86.9	1.6	53.2	1	14
Syntex (7)	SYN	374.4	19	32000.0	9	26892.6	9	2085.0	15	178.2	18.0	542.9	14	69
Upjohn	UPJ	548.5	12	29023.6	10	23163.5	12	3668.9	7	194.1	15.0	700.2	-2	78
Warner-Lambert	WLA	473.5	12	13926.5	24	10958.3	24	5597.6	11	164.6	8.5	858.2	287	55
Zenith Laboratories	ZENL	7.1	40	17289.5	20	10206.6	26	59.4	3	144.6	12.0	-1.4	NM	NEC

R&D SCOREBOARD

COMPANY		R&D EXPENSES						SALES				PROFITS		
		STOCK SYMBOL	CHANGE FROM 1991	PER EMPLOYEE				CHANGE FROM 1991	PER EMPLOYEE	R&D AS % OF SALES	CHANGE FROM 1991	R&D AS % OF PROFITS		
				1992 \$ MIL.	1991 %	1992 \$	1992 RANK						AVG. 1988-92 \$	AVG. 1988-92 RANK
B) MEDICAL PRODUCTS & SERVICES														
GROUP COMPOSITE		3191.8	16	9634.1		7388.2		47558.7	13	143.6	6.7	6968.1	14	45.8
Abbott Laboratories	ABT	772.4	16	16052.3	8	13516.2	7	7851.9	14	163.2	9.8	1738.8	13	44.4
Acuson	ACN	47.7	46	27711.4	1	22528.0	1	342.8	2	199.1	13.9	58.3	-37	81.9
ADAC Laboratories (9)	ADAC	9.8	49	18020.1	3	15219.0	4	121.2	20	222.0	8.1	14.2	NM	69.3
Advanced Medical	AMA	9.4	-3	NA	51	NA	51	128.3	1	NA	7.3	4.1	NM	231.2
Advanced Technology Laboratories	ATLI	38.3	9	17936.8	4	14866.0	5	323.7	16	151.6	11.8	9.5	31	403.1
Amisco International	ASZ	15.0	39	3608.0	37	3476.8	35	498.2	23	119.7	3.0	58.4	24	25.7
Arrow International (8)	ARRO	8.2 **	37	6172.8	30	6172.8	25	133.4	20	100.6	6.1	37.5	55	21.8
Card (C. R.)	BCR	60.5	9	6836.2	28	5296.2	29	990.2	13	111.9	6.1	107.0	39	56.5
Causch & Lomb	BOL	53.3	8	3673.7	36	3471.7	36	1709.1	12	117.9	3.1	262.6	76	20.3
Caxter International	BAX	317.0	10	5171.3	32	4225.2	34	8471.0	9	138.2	3.7	766.0	9	41.4
Dickinson (9)	BDX	125.2	11	6555.3	29	5581.3	27	2365.3	9	123.8	5.3	269.5	1	46.5
Domest (5)	BMET	16.6	29	10348.7	17	9016.1	19	274.8	31	171.1	6.0	76.5	31	21.7
Doston Scientific	BSX	14.9	77	7257.9	27	6052.7	26	315.2	37	153.7	4.7	91.6	35	16.3
Dicon	CCON	7.0	17	8866.2	22	7993.7	23	83.5	21	105.4	8.4	9.3	92	75.2
Collagen (6)	CGEN	12.0	34	23482.4	2	20202.1	2	67.2	9	131.2	17.9	3.9	-55	308.0
Cooper (10)	COO	3.0	49	3281.1	39	4301.4	32	63.3	78	70.3	4.7	-16.1	NM	NEG
Cordis (6)	CORD	19.3	31	8387.0	24	6977.7	24	223.0	12	96.9	8.7	32.3	24	59.7
Danek Group	DNKG	5.2	139	17140.5	6	10673.3	12	75.5	82	246.7	6.9	20.8	96	25.2
Datascope (6)	DSCP	14.2	21	12887.3	13	9577.3	16	156.5	16	142.3	9.1	10.6	-15	133.5
Danaher	DIA	21.3	16	14182.7	10	12215.3	10	299.5	5	199.7	7.1	-19.2	NM	NEG
DePue Imaging	FIMG	4.4 *	-26	7364.9	26	9244.5	18	67.1	17	113.3	6.5	3.1	-11	140.6
DePue USA	FRN	1.6	40	1837.9	46	2217.3	42	128.6	27	152.2	1.2	0.8	NM	207.1
DePue (3)	HAE	10.5	25	10858.0	16	9971.8	14	176.4	12	182.8	5.9	27.7	32	37.9
DePue	HDYN	2.6	15	716.9	49	883.9	50	247.4	29	68.7	1.0	-3.9	NM	NEG
Dynacore Group (6)	IMA	90.5	12	9526.3	20	8889.5	20	1702.9	4	179.3	5.3	202.8	32	44.6
Imaged	IMDC	1.8	13	3100.7	40	2569.4	41	64.3	52	108.0	2.9	0.4	NM	423.9
Interspec (11)	ISPC	7.7	8	13599.3	11	14496.9	6	60.3	-2	106.1	12.8	3.3	-64	232.6
Invarcare	IVCR	5.3 **	16	1792.2	47	1741.8	46	305.2	16	104.2	1.7	27.6	20	19.1
Johnson & Johnson	JNJ	1127.0	15	13274.4	12	10442.6	13	13753.0	11	162.0	8.2	2207.0	8	51.1
Kirschner Medical	KMDC	2.2	47	3925.9	35	3339.1	37	71.2	0	128.8	3.0	0.8	-82	272.7
Marquette Electronics (4)	MARQA	13.6	-3	9830.9	19	9415.1	17	233.1	12	168.5	5.8	22.0	30	61.8
IDT (3)	MDTC	3.9	16	3445.9	38	3135.6	40	119.2	10	105.7	3.3	0.9	-47	441.2
Medex (6)	MDEX	3.3	37	2725.0	41	2178.9	43	87.0	33	72.5	3.8	11.4	43	28.8
Medrad (1)	MEDR	6.4	28	8764.1	23	8156.3	22	67.4	17	92.5	9.5	8.3	44	77.1
Medtronic (4)	MDT	109.2	22	11624.9	14	10729.3	11	1176.9	15	125.3	9.3	242.9	24	44.9
Mentor (3)	MNTR	6.6	36	7934.7	25	5016.1	30	89.4	21	108.1	7.3	6.7	-25	97.9
Miele Safety Appliances	MNES	20.9	7	4105.5	34	3314.8	38	502.4	1	98.5	4.2	27.8	-27	75.3
Mellcor (6)	NELL	22.1 **	58	14629.0	9	12260.7	9	196.2	23	129.7	11.3	34.3	33	64.4
Nichols Institute	LAB A	2.6	-12	714.3	50	1023.7	49	284.2	20	78.0	0.9	-4.4	NM	NEG
Optical Radiation (7)	ORCO	4.7	-9	2607.8	43	3183.5	39	159.7	10	88.7	2.9	5.3	-70	89.3
Puritan-Bennett (1)	PBEN	25.8	7	9941.9	18	8313.1	21	300.1	17	115.4	8.6	18.4	NM	140.4
SciMed Life Systems (2)	SMLS	11.4	97	9155.6	21	5548.7	28	183.9	65	148.3	6.2	51.9	14	21.9
SpaceLabs Medical	SLMD	28.7	15	17644.7	5	17644.7	3	252.2	12	155.0	11.4	29.6	15	97.0
St. Jude Medical	STJM	11.5	42	16780.7	7	12684.1	8	239.5	14	350.2	4.8	136.5	21	8.4
Straker	STRY	32.3 **	36	11119.4	15	9938.1	15	477.1	31	164.2	6.8	76.9	44	42.0
Unrise Medical (6)	SMD	5.8	39	2612.2	42	2103.8	44	243.9	20	109.0	2.4	20.2	48	28.9
Unrise (9)	SYB	8.0	18	2365.3	44	2054.0	45	382.6	9	112.5	2.1	36.3	112	22.2
Unrise Medical Products (11)	TCNL	1.0	37	1213.7	48	1275.6	48	71.3	29	82.8	1.5	18.4	37	5.7
TKOS Medical	TKOS	3.3	-9	2349.3	45	1729.7	47	159.9	28	114.2	2.1	11.5	132	28.6
U.S. Surgical	USS	43.8	43	5382.2	31	4739.1	31	1197.2	42	147.1	3.7	192.9	48	22.7
Vital Signs (9)	VITL	3.0	19	4666.1	33	4291.4	33	65.7	20	103.4	4.5	15.2	21	19.5
HOUSING														
INDUSTRY COMPOSITE		481.4	2	2763.9		3051.7		26728.6	5	153.5	1.8	1111.6	NM	43.3
Ameron (11)	AMN	4.0	60	1379.3	14	1121.8	16	446.5	-4	154.0	0.9	7.5	-41	53.3
SI Holding		40.0	11	1194.0	15	1198.2	15	3791.9	5	113.2	1.1	-42.8	NM	NEG
Green (A. P.) Industries	APGI	2.4	-4	1631.5	12	1384.2	12	168.3	-1	114.4	1.4	-5.2	NM	NEG
Guardsman Products	GPI	5.5	7	6979.8	3	6068.0	4	152.2	8	192.4	3.6	3.4	80	164.6

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1992 \$ MIL.	1991 %	PER EMPLOYEE			CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991 %	R&D AS % OF PROF.	1992 \$ MIL.	1991 %	R&D AS % OF PROF.
				1992 \$	1992 RANK	AVG. 1988-92 \$								
Lafarge	LAF	8.1	8	1051.9	18	996.6	18	1511.2	-4	196.3	0.5	-21.4	NM	NEC
Lilly Industries (11)	LICIA	110.0	4	10260.5	1	8634.0	1	236.5	7	220.0	4.7	21.9	103	50.
Mestek	MCC	1.4	34	472.1	21	338.8	21	242.8	10	83.7	0.6	8.1	-29	16
Moore (Benjamin)	MBEN	12.4 **	10	6450.4	5	5445.8	5	483.9	5	251.4	2.6	60.4	0	20.
Owens-Corning Fiberglas	OCF	55.0	17	3353.7	9	2483.1	10	2878.0	3	175.5	1.9	105.0	NM	52.
PPG Industries	PPG	203.0	-8	6284.8	6	6367.7	3	5813.9	3	180.0	3.5	541.8	53	37.
Pratt & Lambert	PM	7.1	2	4983.8	7	4113.5	7	235.6	-1	165.6	3.0	8.8	11	80.
RPM (5)	RPOW	8.6	33	2787.7	10	2691.9	9	552.1	10	178.1	1.6	57.3	11	15.
Scotsman Industries	SCT	3.5	25	3408.0	8	2727.5	8	168.7	3	164.2	2.1	10.2	988	34.
Sherwin-Williams	SHW	15.7	-15	924.1	19	1059.5	17	2747.8	8	162.1	0.6	226.0	14	6.
Tecumseh Products	TECUB	27.0	8	2146.9	11	1710.8	11	1258.5	5	100.1	2.1	88.4	16	30.
TJ International	TJCO	3.9	106	1155.6	17	840.1	19	400.5	41	117.8	1.0	-11.0	NM	NEC
Tokheim (11)	TOK	10.5 **	-5	6452.3	4	5033.8	6	162.2	-3	99.8	6.5	-33.8	NM	NEC
USG	USG	14.0	17	1181.4	16	1236.0	14	1777.0	4	150.0	0.8	-224.0	NM	NEC
Valspar (10)	VAL	24.8	7	9992.7	2	8224.9	2	683.5	8	275.4	3.6	56.9	24	43.
Vulcan Materials	VMC	5.4	1	866.4	20	834.2	20	1078.0	7	171.9	0.5	130.7	78	4.
York International	YRK	18.0	7	1440.0	13	1294.0	13	1939.4	17	155.2	0.9	123.4	236	14.

12 LEISURE TIME PRODUCTS

INDUSTRY COMPOSITE		2114.0	8	8644.0	4674.1	37151.7	8	151.9	5.7	2745.8	96	77.0		
Anthony Industries	ANT	3.5	21	1000.0	22	868.1	23	402.0	9	114.9	0.9	12.9	21	27.0
Arctco (3)	ACAT	2.5 **	23	2972.9	16	2691.8	15	147.7	-3	173.7	1.7	19.6	-3	12.9
Brunswick	BC	52.0	5	3058.8	13	2761.5	13	2059.4	12	121.1	2.5	62.0	NM	83.9
Callaway Golf	ELY	1.6	88	2283.9	18	2265.6	16	132.1	141	190.3	1.2	33.2	208	4.0
Coachmen Industries	COA	2.1	-10	958.0	23	1173.7	20	292.8	27	135.2	0.7	8.3	NM	25.0
Eastman Kodak	EK	1587.0	6	11968.3	3	10011.9	3	20183.0	4	152.2	7.9	1601.0	NM	99.0
Escalade	ESCA	1.0	14	1408.5	20	938.1	22	91.3	3	128.6	1.1	-0.4	NM	NEC
Fisher-Price	FPP	17.1	24	3030.8	15	2716.6	14	693.9	14	123.0	2.5	67.6	NM	25.0
Fleetwood Enterprises (4)	FLE	12.8 **	5	1066.7	21	1061.6	21	1589.3	13	132.4	0.8	64.1	38	20.0
Galoob (Lewis) Toys	GAL	6.9	10	27554.2	1	22782.7	1	166.3	10	667.8	4.1	-2.2	NM	NEC
Harley-Davidson	HDI	17.6	59	3034.5	14	2071.7	18	1105.3	18	190.6	1.6	88.8	53	19.0
Harman International Industries (6)	HAR	10.7 **	27	2323.7	17	1917.2	19	604.5	3	131.4	1.8	5.9	NM	181.0
Hasbro	HAS	109.7 **	39	9968.6	4	8074.6	4	2541.1	19	231.0	4.3	292.2	101	37.0
Johnson Worldwide Associates (9)	JWAIA	6.9	8	3446.3	10	3201.7	12	334.0	7	166.9	2.1	15.0	-24	46.0
Lumex	LUM	3.8	-1	3456.8	9	3732.1	10	103.9	4	94.5	3.7	6.4	15	59.0
Mattel	MAT	59.6	22	3970.5	8	3515.5	11	1847.9	12	123.2	3.2	215.9	11	27.0
Outboard Marine (9)	OM	36.1	-12	4149.4	6	4099.4	7	1064.6	8	122.4	3.4	12.5	NM	288.0
Polaroid	PRD	154.7 **	1	12517.2	2	12447.5	2	2152.3	4	174.1	7.2	163.1	-85	94.0
Quixote (6)	QUIX	3.3	-30	3382.4	11	4407.6	6	129.4	16	131.3	2.6	15.5	339	21.0
Revell-Monogram	RVL	2.6	26	4086.6	7	3912.7	9	105.1	-1	162.5	2.5	2.8	-48	95.0
SLM International	SLMI	3.1	49	2197.9	19	2080.4	17	231.5	41	165.3	1.3	21.9	147	14.0
Tyco Toys	TTI	15.1	68	6861.8	5	5092.4	5	768.6	40	349.4	2.0	30.1	11	50.0
Video Lottery Technologies	VLTS	2.6	220	3096.4	12	3931.0	8	110.9	252	133.6	2.3	12.3	124	20.0
Winnebago Industries (8)	WGO	1.8	11	719.4	24	846.8	24	295.0	33	116.6	0.6	-2.8	NM	NEC

13 MANUFACTURING

INDUSTRY COMPOSITE		3648.7	8	4143.2	3665.1	122555.4	4	139.2	3.0	6082.2	20	60.0		
(A) GENERAL MANUFACTURING														
GROUP COMPOSITE		1704.5	9	4589.2	2654.3	51424.2	5	138.5	3.3	4525.5	20	37.0		
ACX Technologies	ACXTV	18.6	31	4426.7	12	4426.7	6	570.8	5	135.9	3.3	-32.8	NM	NEG
Alliant Techsystems (3)	ATK	24.5	-6	3663.0	15	4284.6	7	1186.9	3	177.2	2.1	74.2	106	33.0
American Filtrona	AFIL	4.3 **	21	3940.9	14	3434.3	14	144.7	0	131.5	3.0	2.5	-78	176.0
Avery Dennison	AVY	46.7	-4	2821.8	19	2824.0	20	2622.9	3	158.5	1.8	130.2	24	35.0
Bally Gaming International	BGII	7.0	43	8333.3	3	7516.7	3	156.4	7	186.2	4.5	12.0	11	58.0
Barnes Group	B	1.1	19	282.6	55	155.2	55	529.1	-1	130.6	0.2	7.7	-73	14.0
Bic	BIC	3.2	-31	1327.5	41	1709.2	36	417.4	13	173.9	0.8	67.3	44	4.0
Blessings	BCO	1.5	29	2293.8	31	2150.2	26	121.3	9	186.6	1.2	14.1	1	10.0
Blount (2)	BLT A	6.9	-22	1437.5	38	1806.1	34	691.4	9	144.0	1.0	11.1	NM	62.0
Brady (W.H.) (7)	BRCOA	10.0	9	5000.5	6	4102.8	11	236.0	12	118.0	4.2	15.4	-32	65.0
Carlisle	CSL	10.7	3	2327.8	29	2716.1	21	528.1	5	114.6	2.0	39.7	276	27.0
Central Sprinkler (10)	CNSP	2.7	22	6713.6	4	4615.7	5	60.5	-3	149.3	4.5	0.7	-85	385.0

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1991 \$ MIL.	1991 %	PER EMPLOYEE				CHANGE FROM 1991 \$ MIL.	1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991 \$ MIL.	1991 %	R&D AS % OF PROFITS
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
orning	GLW	151.1	16	4858.5	9	4214.8	8	3744.0	14	120.4	4.0	380.4	-13	39.7
star	CSTR	3.1	NA	4925.8	8	3700.2	13	74.9	19	120.8	4.1	9.8	32	31.3
ane	CR	19.2 **	3	2258.8	32	1694.4	37	1307.0	0	153.8	1.5	38.7	-47	49.6
nnelly (6)	DON	14.2	13	5489.9	5	5361.0	4	271.4	17	105.1	5.2	10.8	88	131.2
aracell International (6)	DUR	21.1	24	2637.5	22	1978.5	28	1616.7	6	202.1	1.3	211.0	226	10.0
gle Industries (7)		4.5	0	387.9	54	596.3	51	1266.8	5	109.2	0.4	-4.0	NM	NEG
o Industries (6)	ELCN	2.2	12	1253.6	42	1040.2	44	189.3	21	107.9	1.2	-0.9	NM	NEG
sef (9)	ESSF	2.2 **	-5	3333.8	18	2995.2	19	99.1	3	149.6	2.2	7.8	129	28.2
irchild (6)	FA	4.1	-6	1009.8	47	663.3	49	489.8	-5	119.5	0.8	-26.8	NM	NEG
ederal Signal	FSS	5.2	2	1218.4	43	1146.2	42	518.2	11	121.4	1.0	49.9	9	10.4
st Brands (6)	FBR	9.3	6	2445.3	25	2409.9	24	988.5	-8	260.1	0.9	76.5	-9	12.2
ron (1)	FCBN	6.3 **	2	2644.3	21	1966.1	30	300.1	-2	126.8	2.1	12.5	NM	50.0
arsco	HSC	4.6	26	478.1	53	546.7	53	1624.9	-16	169.3	0.3	140.6	18	3.3
xcel	HXL	10.5	-1	3568.9	16	3376.0	15	386.3	0	131.8	2.7	-23.4	NM	NEG
Shear Industries (5)	HSI	2.6 **	5	2555.1	24	2187.2	25	105.8	-13	106.0	2.4	3.1	-56	83.2
lenbrand Industries (11)	HB	29.6	25	2761.9	20	2442.2	23	1429.8	19	133.6	2.1	171.3	18	17.2
nois Tool Works	ITW	42.5	5	2387.6	27	2135.1	27	2811.6	7	158.0	1.5	309.8	8	13.7
ituform Technologies	INSUA	4.3	-11	9041.6	2	15955.4	1	95.8	25	199.1	4.5	-2.0	NM	NEG
trument Systems (9)	ISY	4.8	26	1714.3	37	732.7	48	500.2	1	178.6	1.0	42.9	49	11.2
ernational Game Technology (9)	IGT	11.8	26	4541.2	11	4182.6	9	399.4	50	153.6	3.0	107.5	119	11.0
ape & Vogt Mfg. (6)	KNAP	1.2	18	1064.6	46	790.5	47	124.9	9	115.3	0.9	10.2	23	11.3
ar Holdings (6)		11.4	44	973.2	48	807.4	46	1422.7	31	121.6	0.8	-3.5	NM	NEG
dall	LDL	4.7	15	4973.5	7	4120.1	10	151.1	12	159.9	3.1	14.6	10	32.2
ark Controls	MRCC	1.5	1	2626.8	23	1916.7	32	86.2	-7	154.0	1.7	6.0	13	24.6
ark IV Industries (2)	IV	27.9	16	2341.7	28	1969.0	29	1145.6	22	96.3	2.4	47.1	22	59.1
aterial Sciences (2)	MSC	3.1	9	4543.7	10	3290.2	17	156.2	10	231.5	2.0	14.1	21	21.7
nnesota Mining & Mfg.	MMM	1007.0	10	11572.7	1	9765.6	2	13883.0	4	159.5	7.3	1947.0	4	51.7
okote Holding (3)	NKOT	1.9	20	1953.2	35	1953.2	31	95.4	6	99.2	2.0	9.4	50	20.0
Sullivan	OSL	1.6	22	749.0	51	573.3	52	218.5	11	104.0	0.7	17.5	630	9.0
Di Corp. of America (7)	OILC	1.5	21	2227.3	33	1763.6	35	118.8	16	182.4	1.2	9.2	0	15.7
rker Hannifin (6)	PH	20.9	-5	784.8	49	953.1	45	2375.8	-3	89.1	0.9	105.4	2	19.9
n Engineering & Mfg.	PNN	1.1	17	1169.7	44	1078.2	43	88.3	25	90.3	1.3	10.5	67	10.8
bbermaid	RBD	26.0	12	2297.4	30	1909.9	33	1805.3	8	159.8	1.4	266.8	2	9.7
aled Air	SEE	9.4	-5	3461.0	17	3096.6	18	446.1	3	164.0	2.1	38.8	23	24.3
S Technologies	ST	6.6	-5	1813.3	36	1320.7	40	321.2	-16	88.2	2.1	-8.3	NM	NEG
rm, Ruger	RGR	1.2	NA	774.7	50	616.9	50	156.1	14	100.8	0.8	37.1	53	3.2
netic (6)	SNTC	1.6	18	1992.3	34	3321.9	16	59.1	139	75.7	2.6	8.8	84	17.7
degard Industries	TG	5.0	11	1436.0	39	1192.9	41	479.0	1	136.9	1.1	25.5	188	19.7
tova	TNV	65.3 **	-13	4101.7	13	3755.1	12	1695.5	1	106.5	3.9	24.0	NM	271.7
lmont Industries	VALM	2.6	-13	593.9	52	492.4	54	424.7	-1	97.0	0.6	18.4	NM	14.1
ittaker (10)	WKR	1.1	0	1100.0	45	1657.3	38	159.9	1	159.9	0.7	21.9	17	5.0
MS Industries (6)	WMS	8.7	29	2440.3	26	2698.5	22	227.0	41	63.6	3.8	25.4	168	34.3
rman-Gordon	WYMN	3.0	-10	1339.1	40	1354.6	39	298.9	-16	132.8	1.0	21.8	NM	13.8

MACHINE & HAND TOOLS

GROUP COMPOSITE		310.0	6	2498.8	2282.6	15528.8	8	125.2	2.0	348.9	-16	88.8		
ne-Cleveland (9)	AMT	2.7	14	1300.5	17	812.4	17	177.6	-3	85.8	1.5	6.5	18	41.1
idura	ADU	1.1	38	924.4	19	520.8	20	126.8	-12	106.6	0.9	-17.9	NM	NEG
st Lock		1.6	24	1542.4	15	1075.6	16	84.9	13	82.8	1.9	3.9	-38	40.5
ck & Decker	BDK	95.6	6	2463.9	10	2155.6	11	4779.6	3	123.2	2.0	-29.0	NM	NEG
own & Sharpe Mfg.	BNS	10.9	-4	6166.9	1	4864.4	1	159.9	-9	90.4	6.8	-11.8	NM	NEG
cinnati Milacron	CMZ	34.1	-5	5792.4	2	4850.5	2	789.2	5	134.1	4.3	27.0	NM	126.3
rk Equipment	CKL	16.9 **	2	2675.7	8	2878.4	7	802.7	11	127.1	2.1	-17.5	NM	NEG
ahner	DHR	19.3	28	2649.0	9	2032.8	13	954.1	14	130.7	2.0	56.7	115	34.1
Idings & Lewis	GIDL	3.8	147	950.5	18	560.4	19	622.9	91	154.2	0.6	46.0	53	8.3
ason	GLE	7.7	20	5391.6	3	3125.1	4	147.3	-17	103.7	5.2	-24.8	NM	NEG
ster-Yale Materials Handling		23.2 **	16	4947.8	4	3537.7	3	863.7	9	184.2	2.7	7.8	NM	299.2
nametal (6)	KMT	13.7	-7	2742.2	7	2409.1	10	594.5	-4	119.4	2.3	21.0	-45	65.1
coln Electric	LIEL	20.5	-4	3243.8	5	3016.4	5	853.0	2	134.7	2.4	-34.4	NM	NEG
narch Machine Tool	MMO	1.4	-19	1728.5	14	1737.5	14	77.9	-27	97.0	1.8	-10.3	NM	NEG
rmond	RAYM	2.6	-42	2283.0	11	2896.8	6	146.7	6	130.9	1.7	6.6	NM	38.6
p-on Tools	SNA	19.6 **	26	2181.2	12	2110.1	12	1047.4	12	116.4	1.9	109.6	-8	17.9

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS			
		CHANGE FROM 1992 \$ MIL	1991 %	PER EMPLOYEE				CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1992 \$ MIL	1991 %	R&D AS % OF PROF.		
				1992 \$	1992 RANK	AVG 1988-92 \$	AVG 1988-92 RANK								
SPX	SPX	14.7	12	2630.4	6	2622.8	8	801.2	19	154.1	1.8	36.4	NM	40	
Stanley Works	SWK	15.2	9	815.0	20	787.8	18	2217.7	13	178.9	0.7	158.1	1	9	
Starrett (L.S.) (6)	SCX	3.7	13	1434.4	16	1134.6	15	180.3	-4	70.6	2.0	15.0	-14	24	
TransTechnology (3)	TT	1.7	6	1882.6	13	2571.7	9	101.5	-7	112.5	1.7	0.1	-96	3035	
(C) SPECIAL MACHINERY															
GROUP COMPOSITE		1580.1	7	4814.2		5719.5		50367.5	1	153.5	3.1	1215.7	31	130.1	
AGCO	AGCO	6.9**	20	5409.4	19	5194.0	17	314.5	15	245.7	2.2	6.0	-31	114	
Applied Materials (10)	AMAT	109.2**	6	27934.5	3	27679.9	3	751.4	18	192.2	14.5	58.9	46	185	
Applied Power (8)	APW	5.2	5	1720.2	43	2063.5	35	357.4	0	118.3	1.5	15.9	-25	32	
Astec Industries	ASTE	2.6	3	2418.0	34	2085.7	34	149.1	11	139.8	1.7	6.4	NM	40	
Baldwin Technology (6)	BLD	6.8	16	6052.2	18	4195.4	20	221.5	1	196.0	3.1	8.3	-56	82	
B-E Holdings		7.4	-10	6469.1	14	3917.2	22	242.5	-3	211.4	3.1	-15.8	NM	NE	
Binks Mfg. (11)	BIN	4.2	29	2614.9	31	1794.9	40	223.7	1	137.8	1.9	3.0	32	142	
Briggs & Stratton (6)	BGG	10.8	36	1385.8	46	1160.9	46	1041.8	10	133.6	1.0	80.2	51	13	
BWIP Holding	BWIP	7.8	8	2467.2	33	1768.3	41	433.1	1	137.3	1.8	64.1	32	12	
Caterpillar	CAT	310.0	14	6108.5	17	4456.5	19	10194.0	0	200.9	3.0	-332.0	NM	NE	
Chart Industries	CH	8.0*	208	9422.8	8	9422.8	9	104.8	24	123.5	7.6	10.6	25	75	
CMI	CMI	3.6**	19	4655.5	21	5635.0	15	81.2	22	104.7	4.4	2.2	NM	63	
Commercial Intertech (10)	TEC	8.0	30	2089.6	39	1708.9	42	450.6	3	117.0	1.8	23.3	-36	34	
Deere (10)	DE	288.4**	3	8353.6	9	6901.9	10	6846.7	-2	198.3	4.2	52.1	NM	553	
Dover	DOV	6.76	9	3602.4	25	3028.2	25	2271.6	3	120.7	3.0	200.3	-2	33	
Duriron	DUR	5.5	-18	2208.4	37	2317.4	32	300.4	1	120.1	1.8	20.7	-34	26	
Farr	FARC	2.5**	21	1952.5	41	2396.3	31	112.1	0	85.9	2.3	-3.5	NM	NE	
Farrel	FARL	2.5	2	4304.2	22	4089.6	21	70.6	NA	123.4	3.5	2.6	NA	96	
FMC	FMC	145.0	8	6561.5	13	6216.6	13	3973.7	2	179.6	3.6	283.3	9	51	
Gehl	GEHL	1.7	9	1673.3	44	1515.0	43	129.7	2	129.6	1.3	-18.2	NM	NE	
General Signal	GSX	93.5	-3	6836.7	11	6340.1	12	1618.3	0	118.4	5.8	13.5	-85	692	
Gerber Scientific (4)	GRE	22.2	-1	14312.9	6	13719.1	5	250.0	-7	161.3	8.9	11.3	-8	195	
Goulds Pumps	GULD	7.9	30	1837.2	42	1414.1	44	557.9	-2	129.7	1.4	35.8	-30	22	
Graco	GGG	10.6	11	5281.6	20	5167.4	18	320.3	3	159.4	3.3	18.0	18	58	
Harnischfeger Industries (10)	HPI	26.7	8	2305.5	35	1940.9	37	1390.8	-13	119.9	1.9	102.1	-19	26	
Hein-Werner	HNW	1.5	-15	3049.8	28	2744.1	28	60.3	10	120.0	2.5	-1.4	NM	NE	
Indresco (10)	ID	2.9	-19	749.5	49	749.5	50	558.7	-10	144.4	0.5	-50.8	NM	NE	
Ingersoll-Rand	IR	138.4**	12	3919.8	23	3741.7	23	3783.8	6	107.2	3.7	148.0	-37	93	
Interlake	IK	2.8	-26	589.4	52	859.7	48	708.2	-1	148.2	0.4	-1.5	NM	NE	
Ionic	ION	3.1**	7	2803.6	30	2707.7	30	155.2	12	141.1	2.0	18.2	56	17	
JLG Industries (7)	JLGI	3.6**	6	3577.9	26	2743.7	29	110.5	17	109.0	3.3	5.8	NM	NE	
Joy Technologies (2)	JOY	3.0	111	704.0	50	532.3	52	608.6	-7	144.9	0.5	27.3	-33	10	
Kulicke & Soffa Industries (9)	KSI	13.9	-8	15243.7	5	11492.6	7	95.0	-5	104.2	14.6	-13.1	NM	NE	
Lam Research (6)	LRCX	33.9	16	34779.7	2	31810.5	2	171.4	19	175.6	19.8	13.6	68	249	
Manitowoc (6)	MANT	3.6	41	1990.0	40	1353.5	45	246.4	4	136.9	1.5	11.6	-44	31	
Newcor (10)	NEWC	6.1**	8	8094.4	10	9567.5	8	90.6	2	120.4	6.7	6.5	17	93	
Nordson (10)	NDSN	18.4	2	6275.5	16	6378.7	11	425.6	10	144.9	4.3	60.8	17	30	
Novellus Systems	NVL	12.3	34	40150.3	1	34023.2	1	69.8	-13	228.1	17.6	9.4	-63	130	
Oilgear	OLGR	1.9	-1	2267.3	36	2020.2	36	68.3	3	81.5	2.8	1.3	22	147	
Pentair	PNTA	9.4	0	1132.5	47	861.8	47	1238.7	6	149.2	0.8	72.7	-2	12	
Rexnord (6)	REX	4.1	-10	818.1	48	808.7	49	514.8	-7	102.5	0.8	11.4	-65	35	
Roper Industries (10)	ROPR	1.1	-17	1546.0	45	1851.5	39	69.6	-7	96.9	1.6	7.5	-4	14	
Silicon Valley Group (9)	SVGI	270**	-10	18126.8	4	16473.7	4	192.5	-18	129.2	14.0	1.6	-53	1726	
Stevens Graphics	SVG A	1.3	-14	2160.3	38	2943.8	27	84.2	7	134.9	1.6	-4.7	NM	NE	
Tennant	TANT	11.9**	19	6803.4	12	5357.0	16	214.9	8	122.8	5.5	18.0	-3	66	
Thermo Fibertek	TFT	2.7	25	3075.4	27	3075.4	24	126.4	0	146.7	2.1	14.3	9	18	
Timken	TKR	41.7	2	2495.6	32	2217.8	33	1642.3	0	98.2	2.5	13.4	NM	310	
Twin Disc (6)	TDI	7.7**	-19	6342.3	15	5901.5	14	136.3	-11	111.6	5.7	1.9	NM	418	
Tyco Laboratories (6)	TYC	15.8	19	687.2	51	612.7	51	3066.5	-1	133.3	0.5	131.5	-30	12	
Varity (11)	VAT	41.4	9	2951.7	29	1871.1	38	3374.5	6	240.6	1.2	45.0	NM	92	
Wheatley TXT (2)	WTXT	2.1**	42	3612.8	24	2967.5	26	88.3	32	153.3	2.4	11.8	195	17	
Zebra Technologies	ZBRA	3.4	43	11513.6	7	11659.3	6	58.7	29	199.7	5.8	17.8	34	19	

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1991 %	1992 \$ MIL.	PER EMPLOYEE				CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991 %	R&D AS % OF PROFITS		
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
TEXTILES														
GROUP COMPOSITE		54.1	12	950.1		1712.9		5234.9	6	91.9	1.0	-7.8	NM	NEG
Company International	AIN	18.5	0	3253.6	2	2873.4	2	569.6	1	100.3	3.2	2.7	-86	688.8
Hillington Industries Equity (9)	BUR	10.4	6	443.2	7	424.8	7	2065.9	7	88.3	0.5	-88.7	NM	NEG
Record Fabrics (8)	CIS	3.3	0	4888.9	1	3709.2	1	201.7	2	298.9	1.6	0.3	-79	1213.2
Swan Crafts (3)	CRW	2.3	4	1426.3	5	1187.0	5	122.7	1	76.7	1.9	10.0	-5	22.8
VG (4)	DWG	2.1	27	121.1	8	98.1	8	1275.1	5	72.4	0.2	-0.1	NM	NEG
Industries (11)	FIT	3.7	9	2032.8	4	1750.7	4	189.3	2	105.2	1.9	25.8	12	14.2
Wilford Mills (6)	GFD	12.5	47	2864.3	3	1930.5	3	614.9	16	140.9	2.0	34.1	70	36.7
Artificial Industries (9)		1.4	NA	760.5	6	760.5	6	195.7	4	106.3	0.7	8.2	30	17.2
METALS & MINING														
GROUP COMPOSITE		410.2	-6	2005.5		1733.3		35846.4	0	175.3	1.1	-383.3	NM	NEG
ALUMINUM														
GROUP COMPOSITE		276.9	-11	2405.2		1691.8		19195.8	-3	166.7	1.4	122.1	-86	226.8
Aluminum Co. of America	AA	212.2	-16	3336.5	1	3296.4	1	9491.5	-4	149.2	2.2	298.6	-27	71.1
Alcoa	KLU	13.5	18	1351.6	2	1217.2	2	1909.1	-5	191.1	0.7	32.1	-77	42.1
Alcan	MXM	13.5	18	1103.1	4	883.7	4	2202.6	-2	180.0	0.6	-13.2	NM	NEG
Alcoa Metals	RLM	37.7	1	1286.7	3	1180.1	3	5592.6	-2	190.9	0.7	-195.4	NM	NEG
STEEL														
GROUP COMPOSITE		93.0	10	1555.4		1964.5		12312.0	5	205.9	0.8	-902.5	NM	NEG
Armstrong International	ALS	10.0	35	1854.8	5	1534.3	5	1036.0	3	191.9	1.0	78.8	9	12.7
Armco	AS	26.6	3	2313.0	4	2292.2	4	2073.6	30	180.3	1.3	-453.9	NM	NEG
Armstrong Technology (6)	CRS	14.0	52	3961.5	3	2773.8	3	570.2	1	161.3	2.5	22.8	-51	61.3
Armstrong International (9)		3.9	-15	4336.3	2	4162.8	1	169.3	-25	188.6	2.3	-28.1	NM	NEG
Armstrong Steel	NS	9.5	8	922.4	7	487.2	8	2373.3	2	230.4	0.4	-74.5	NM	NEG
Armstrong International (1)	PS	1.3	0	9558.8	1	3493.0	2	63.8	-42	469.4	2.0	-12.8	NM	NEG
Armstrong-U. S. Steel Group	X	23.0	5	1070.8	6	866.6	7	4947.0	2	230.3	0.5	-394.0	NM	NEG
Armstrong Steel	WS	4.7	-12	716.3	8	984.7	6	1078.7	4	164.9	0.4	-40.9	NM	NEG
OTHER METALS														
GROUP COMPOSITE		40.3	-3	1360.4		1532.3		4338.6	2	146.5	0.9	397.1	10	10.1
Armstrong Wellman	BW	7.3	-4	3983.6	1	3288.8	1	265.0	-1	144.7	2.8	13.7	NM	53.1
Armstrong	DRV	1.8	81	1269.5	6	816.7	7	273.0	-8	192.1	0.7	12.7	-21	14.2
Armstrong Mining	HL	1.3	-14	1594.4	5	1495.8	5	100.7	-6	121.9	1.3	-49.6	NM	NEG
Armstrong Resources	NRD	1.0	-2	612.6	9	459.5	9	100.1	-7	59.6	1.0	-3.2	NM	NEG
Armstrong Dodge	PD	17.9 *	5	1228.6	7	1187.7	6	2579.3	6	177.0	0.7	416.0	3	4.3
Armstrong Castparts (3)	PCP	5.2	-4	816.1	8	714.8	8	583.3	8	91.5	0.9	53.0	7	9.8
Armstrong Titanium	RTI	1.6	-53	1707.2	4	1981.6	3	135.6	-18	140.8	1.2	-14.0	NM	NEG
Armstrong TeleTec (3)	STT	1.9	-10	2837.8	2	2628.7	2	132.3	-12	198.7	1.4	4.0	-46	46.9
Armstrong	TRE	2.2	4	1718.8	3	1886.9	4	169.4	0	132.3	1.3	-35.5	NM	NEG
OFFICE EQUIPMENT & SERVICES														
GROUP COMPOSITE		17196.2	6	14728.0		15357.9		205092.6	6	175.2	8.4	-3730.5	NM	NEG
BUSINESS MACHINES & SERVICES														
GROUP COMPOSITE		267.0	0	3286.0		3836.2		10287.0	6	126.6	2.6	1001.8	13	26.7
Armstrong (9)	AAC	3.5	-9	770.7	18	837.1	15	628.9	-1	139.8	0.6	35.3	5	9.8
Armstrong & Howell		18.6	4	3228.6	9	3228.6	9	670.0	7	116.1	2.8	13.4	383	139.4
Armstrong Runner	DAYR	1.6	40	2851.9	12	2368.3	11	71.2	34	130.2	2.2	7.5	33	20.7
Armstrong	DBD	24.5	27	6151.4	5	4017.0	6	543.9	7	136.8	4.5	57.3	11	42.7
Armstrong Automation	ECA	4.3	5	2893.7	11	2885.4	10	469.8	53	316.2	0.9	57.1	57	7.5
Armstrong Binding	GBND	3.5	32	1047.0	15	768.7	16	368.6	18	109.6	1.0	27.3	35	12.9
Armstrong Industries	HONI	5.9 **	74	1022.7	16	681.0	17	706.6	16	123.4	0.8	61.9	18	9.5
Armstrong Mfg. (11)	HUN	1.5	32	811.9	17	627.5	18	234.9	3	125.6	0.6	21.6	26	7.0
Armstrong (9)	KRON	4.1 **	28	6932.3	4	6932.3	3	58.1	22	98.4	7.0	5.7	56	72.0
Armstrong Master Technologies (6)	LMTS	2.0	-30	5191.3	6	5492.4	5	59.9	7	152.7	3.4	-0.4	NM	NEG
Armstrong (Herman) (5)	MLHR	20.3	-5	3382.8	8	3285.9	8	804.7	-8	134.1	2.5	-1.0	NM	NEG
Armstrong Technology	PTC	6.4	12	7865.3	3	6468.8	4	73.3	-7	90.6	8.7	3.6	47	177.6

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS			
		CHANGE FROM 1991 \$ MIL.	1991 %	1992 \$	PER EMPLOYEE			CHANGE FROM 1991 \$ MIL.	1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991 \$ MIL.	1991 %	R&D AS % OF PRO.	1992 %
					1992 RANK	1988-92 S	1988-92 RANK								
Pitney Bowes	PB	101.6	-11	3509.2	7	3305.2	7	3434.1	3	118.6	3.0	495.4	7	20	20
Reynolds & Reynolds (9)	REY	9.6	-23	1908.9	13	2160.9	13	644.8	2	128.2	1.5	64.4	55	14	14
Smith Corona (6)	SCO	11.0	21	3062.8	10	2327.4	12	371.7	-3	103.2	3.0	32.5	20	34	34
Standard Register	SREG	7.8 **	-1	1363.2	14	1417.1	14	705.2	2	123.2	1.1	61.9	21	12	12
Telxon (3)	TLXN	12.1 **	5	8985.9	2	8699.7	2	215.0	17	159.3	5.6	25.0	26	48	48
VeriFone	VFC	28.7	13	18384.8	1	17541.6	1	226.1	20	144.8	12.7	33.3	23	66	66

(B) COMPUTER COMMUNICATIONS

GROUP COMPOSITE		435.7	21	23271.4		22956.3		3776.1	24	196.4	11.5	422.4	215	103	
Cabletron Systems (2)	CS	27.8	104	13664.9	19	12268.7	20	290.5	61	143.0	9.6	91.8	60	30	30
Chipcom	CHPM	12.8	51	31274.5	4	32022.6	3	87.3	82	213.9	14.6	13.2	110	96	96
Cirrus Logic (3)	CRUS	32.4	24	43348.9	1	43265.5	1	171.6	7	229.3	18.9	23.0	-25	140	140
Cisco Systems (7)	CSCO	26.7	111	30323.1	5	26576.4	5	339.6	85	385.1	7.9	136.1	92	19	19
Data Switch	DASW	12.4	16	22674.0	14	15842.0	17	84.0	-18	153.9	14.7	-1.2	NM	NE	NE
Digital Communications Associates (6)	DCA	24.4	13	19425.9	17	19947.1	14	209.4	9	166.7	11.7	25.2	50	96	96
Dynatech (3)	DYTC	51.7	0	16369.4	18	14354.8	18	486.4	1	154.1	10.6	23.5	-15	219	219
Emulex (6)	EMUL	13.1 **	7	22026.9	15	18407.0	16	101.3	6	170.5	12.9	9.4	-7	139	139
MB Communications (3)	MCBX	8.2 **	-2	NA	21	NA	21	169.2	7	NA	4.8	-10.4	NM	NE	NE
Network Equipment Technologies (3)	NWK	32.5	1	29893.3	6	22354.2	11	180.8	34	166.3	18.0	-12.6	NM	NE	NE
Network General (3)	NETG	6.5	59	24996.1	11	23528.6	8	64.0	32	247.0	10.1	13.8	20	46	46
Network Systems	NSCO	28.5	15	20989.7	16	18430.9	15	219.1	10	161.2	13.0	-34.1	NM	NE	NE
Norand (8)	NRPD	9.7	13	12826.5	20	12826.5	19	114.6	13	151.8	8.4	3.5	NM	278	278
Proteon	PTON	14.0	38	26638.1	7	22424.1	10	120.3	27	229.1	11.6	10.2	12	137	137
Retix	RETX	10.2 **	11	24637.4	12	23304.0	9	70.8	17	171.9	14.4	11.8	83	86	86
SynOptics Communications	SNPC	48.1	33	34367.3	3	26729.2	4	388.8	57	309.8	11.1	66.8	56	64	64
Telematics International	TMAX	13.5	-9	37388.9	2	38506.1	2	67.3	4	186.8	20.0	7.0	NM	192	192
3Com (5)	COMS	46.6	3	24583.8	13	22312.4	12	408.4	2	215.4	11.4	5.2	NM	892	892
Wellfleet Communications (6)	WFLT	9.8	87	25428.9	9	25115.4	4	85.1	137	219.9	11.6	18.5	359	53	53
Xircom (9)	XIRC	3.9	142	25376.6	10	20165.1	13	59.1	124	383.7	6.6	9.6	133	40	40
Xyplex	XPLX	7.9	46	26511.7	8	23751.5	7	58.6	41	195.9	13.5	12.0	39	66	66

(C) COMPUTERS

GROUP COMPOSITE		11920.2	3	17435.3		17797.6		135290.7	4	197.0	8.8	-8469.2	NM	NE	NE
Advanced Logic Research (9)	AALR	5.1 **	19	7902.8	26	6928.4	26	206.8	-9	319.2	2.5	1.2	-95	426	426
Amdahl	AMH	372.4 **	19	42488.0	1	34266.6	1	2524.7	48	288.1	14.7	-14.0	NM	NE	NE
Apple Computer (9)	AAPL	602.1	3	40690.3	2	33632.6	2	7086.5	12	478.9	8.5	855.4	71	70	70
AST Research (6)	ASTA	30.5 **	14	8556.5	24	7992.6	24	944.1	37	265.2	3.2	100.3	2	30	30
Atari	ATC	9.2	-40	33966.7	5	22339.9	10	127.3	-51	471.6	7.2	-83.2	NM	NE	NE
Commodore International (6)	CBU	25.7	18	NA	29	NA	29	911.0	-13	NA	2.8	25.4	-52	101	101
Compaq Computer	CPQ	172.9	-12	18205.0	14	15803.6	15	4099.8	25	431.6	4.2	310.6	79	55	55
Concurrent Computer (6)	CCUR	27.3	-37	15177.2	19	16210.2	14	221.6	-13	123.1	12.3	1.8	NM	1480	1480
Control Data Systems	CDAT	37.5	-13	11506.8	21	11304.7	21	517.0	-10	157.4	7.3	-132.5	NM	NE	NE
Convex Computer	CNX	33.2	12	26519.8	10	23226.1	9	231.8	17	199.2	14.3	4.1	NM	809	809
Cray Research	CYR	148.9 **	5	30413.5	7	27194.6	4	797.6	-8	162.9	18.7	-15.6	NM	NE	NE
Data General (9)	DGN	111.3	19	15681.1	17	12829.1	19	111.5	-9	157.2	10.0	-59.4	NM	NE	NE
Datapoint (7)	DPT	10.3	28	5774.9	25	5945.1	27	255.2	-4	143.6	4.0	-9.1	NM	NE	NE
Dell Computer (1)	DELL	31.3	26	6727.3	27	7612.4	25	2013.9	126	433.1	1.6	143.3	95	21	21
Digital Equipment (6)	DEC	1753.9 **	6	15412.1	18	12987.9	18	13930.8	0	122.4	12.6	-2078.0	NM	NE	NE
Encore Computer	ENCC	25.2	-25	22166.2	13	19415.4	13	130.9	-15	115.1	19.3	-31.8	NM	NE	NE
Hewlett-Packard (10)	HWP	1620.0	11	17494.6	15	14779.6	16	16410.0	13	177.2	9.9	1325.0	18	122	122
Intergraph	INGR	150.2	12	14577.9	20	12492.3	20	1176.7	-2	114.2	12.8	12.4	-69	121	121
International Business Machines	IBM	5088.0	2	16656.7	16	13900.8	17	64523.0	0	214.0	7.9	-9026.0	NM	NE	NE
Pyramid Technology (9)	PYRD	28.4	17	25559.4	11	21386.7	11	192.2	-16	173.2	14.8	-66.6	NM	NE	NE
Sequent Computer Systems	SQNT	36.9	17	23038.1	12	19449.7	12	307.3	44	192.0	12.0	15.9	NM	232	232
Sequoia Systems (6)	SEQS	13.6	40	34966.7	4	29924.7	3	62.6	7	160.5	21.8	-3.6	NM	NE	NE
Silicon Graphics (6)	SGI	137.8	36	38535.7	3	25949.6	6	866.6	NA	242.4	15.9	-102.5	NM	NE	NE
Stratus Computer	SRA	83.5	4	31848.6	6	25984.0	5	486.3	8	185.5	17.2	72.1	10	115	115
Sun Microsystems (6)	SUNW	381.6	7	29815.4	8	25464.5	7	3588.9	11	280.4	10.6	254.9	-10	149	149
Tandem Computers (9)	TDM	315.5	11	29257.9	9	24156.3	8	2036.9	6	188.9	15.5	-31.6	NM	NE	NE

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE				1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1992 \$ MIL.	CHANGE FROM 1991 %	R&D AS % OF PROFITS
				1992 \$	1992 RANK	AVG. 1988-92 \$	AVG. 1988-92 RANK							
isys	UIS	535.9	-16	9869.2	23	9508.1	23	8423.0	-3	155.1	6.4	435.6	NM	123.0
ang Laboratories (6)	QWAN B	131.9	-44	10260.6	22	10411.0	22	1896.2	-9	147.5	7.0	-339.5	NM	NEG
os International	ZEOS	4.9	143	8353.3	25	3074.2	28	206.1	-11	353.6	2.4	-33.8	NM	NEG
) DATA PROCESSING														
GROUP COMPOSITE		218.9	21	6102.6		5357.4		3605.4	11	100.5	6.1	449.5	32	48.7
xiom (3)	ACXM	5.6	3	3514.4	9	2810.9	9	88.4	-10	55.3	6.4	3.2	-47	173.3
merican Management Systems	AMSY	15.3	-8	4775.6	8	4955.5	6	332.5	17	103.9	4.6	29.4	45	52.0
Automatic Data Processing (6)	AUD	111.5	14	5438.2	6	4457.6	8	1940.6	10	94.7	5.7	341.6	14	32.6
ys Group (6)	BSYS	6.0	16	9609.6	2	9609.6	2	74.5	18	119.3	8.1	-21.9	NM	NEG
Computer Language Research	CLRI	7.2	9	7003.9	5	4709.0	7	111.0	-4	107.7	6.5	7.8	23	92.3
Care Systems	CYS	5.3	-16	4975.7	7	5338.9	4	74.8	0	69.9	7.1	2.5	85	213.4
ech Holdings (2)	GTK	21.1	66	8594.7	4	7671.4	3	350.1	29	142.3	6.0	30.4	436	69.6
ational Data (5)	NDTA	4.9	-30	2427.0	10	2354.5	10	219.4	-4	109.7	2.2	12.8	NM	37.9
Card Data Systems	SNDT	30.6	50	14635.4	1	11114.8	1	324.6	14	155.3	9.4	45.4	18	67.4
tems & Computer Technology (9)	SCTC	11.4	224	8779.2	3	5331.9	5	89.5	39	68.8	12.8	-1.6	NM	NEG
) DISK & TAPE DRIVES														
GROUP COMPOSITE		772.8	14	7395.3		10109.3		11896.8	12	113.9	6.5	391.9	14	197.2
olied Magnetics (9)	APM	24.1 **	-15	3253.7	14	3091.1	14	297.9	-23	40.2	8.1	0.9	NM	2726.2
S Enhancements (6)	CME	1.5	-41	6702.2	13	4432.5	13	115.1	-12	511.3	1.3	-9.6	NM	NEG
Inner Peripherals	CNR	94.7	11	7694.0	12	6994.9	11	2238.4	40	182.0	4.2	162.2	26	58.4
byte	EXBT	36.4 **	72	30558.8	2	24050.1	2	287.4	23	241.6	12.7	38.9	-23	93.6
hinson Technology (9)	HTCH	5.8	37	1731.7	16	1491.6	16	160.3	12	48.1	3.6	13.8	131	41.7
mega	IOMG	22.0	22	17290.5	3	13110.1	4	139.2	2	109.6	15.8	6.1	-65	357.3
mag	KMAG	26.4 **	46	8532.7	10	5712.4	12	326.8	17	105.8	8.1	25.8	-16	102.2
xtor (3)	MXTR	72.4	33	8208.7	11	7150.4	10	1029.5	18	116.7	7.0	1.1	NM	6541.7
opolis	MLIS	27.9	16	10437.5	8	8557.6	9	396.6	13	148.5	7.0	20.9	365	133.4
antum (3)	QNTM	59.3	37	33821.3	1	30585.7	1	1127.7	28	643.7	5.3	74.4	-36	79.7
on (9)	REXN	13.3	9	13903.1	6	12116.1	5	208.2	14	216.9	6.4	14.3	6	93.0
igate Technology (6)	SGAT	132.9 **	-3	3091.3	15	2491.9	15	2875.3	7	66.9	4.6	85.4	5	155.7
rage Technology	STK	148.0	25	14653.1	4	10876.5	7	1521.5	-4	150.6	9.7	34.1	-68	434.1
quest Technology (9)	SYQT	15.4	27	14179.4	5	14896.1	3	174.9	52	160.9	8.8	18.6	162	83.1
tem Industries (7)	SYI	3.2	-32	8556.7	9	9877.2	8	59.7	-36	157.6	5.4	-23.6	NM	NEG
stern Digital (6)	WDC	89.6	-4	12969.3	7	11974.2	6	938.3	-5	135.9	9.5	-71.4	NM	NEG
PERIPHERALS & OTHER														
GROUP COMPOSITE		1111.4	5	8817.5		9646.2		20940.5	3	166.1	5.3	139.2	-87	798.3
International (7)	AM	3.6	-59	723.0	21	1479.1	21	618.7	-28	123.2	0.6	-124.8	NM	NEG
cTec (3)	BTEC	7.7 **	-15	4000.0	17	5401.1	16	191.0	4	99.3	4.0	18.7	28	41.2
rry (2)	CHER	8.1	-8	3013.8	19	2590.7	19	228.6	-7	85.2	3.5	3.0	NM	273.5
	EMC	28.9	57	19834.7	6	14465.4	7	349.1	50	239.4	8.3	42.3	110	68.4
icom	GECM	3.8	65	1527.3	20	1575.3	20	222.7	3	89.5	1.7	0.8	NM	491.0
ocus Systems	INFS	2.9	1	17561.0	7	16411.3	6	59.8	21	364.8	4.8	5.7	-14	51.0
Tronic (6)	KTCC	5.3 **	-39	3271.3	18	3405.6	18	124.0	-12	76.6	4.3	-7.3	NM	NEG
ope Group	MILT	6.0 **	14	10374.1	10	7813.4	13	114.4	11	197.2	5.3	6.9	36	87.3
Technologies	NATL	3.7	8	9152.5	13	7149.3	14	67.3	13	168.3	5.4	8.0	43	45.9
ional Computer Systems (1)	NLCS	15.0	33	5776.5	16	3657.3	17	300.1	-1	115.4	5.0	26.6	10	56.4
ork Computing Devices	NCDI	6.7	50	21009.4	5	21066.3	4	120.3	97	377.3	5.6	10.6	235	63.1
tronix (3)	PTNX	12.1 **	-8	13119.6	9	9342.1	9	88.6	-17	96.3	13.6	-8.9	NM	NEG
S (9)	AQM	15.9	19	10053.0	11	8281.0	11	260.7	-14	164.6	6.1	-4.4	NM	NEG
ne (2)	QUME	5.7	-34	7849.0	15	9337.4	10	229.8	6	318.3	2.5	-16.2	NM	NEG
ius (9)	RDUS	11.7	33	28103.4	1	24953.2	1	159.6	35	383.6	7.3	11.8	91	99.5
erOps (6)	ROPS	4.6	46	22336.6	3	18922.5	5	89.2	23	435.2	5.1	6.8	-33	67.1
ard Microsystems (2)	SMSC	12.9	5	21325.6	4	24311.8	2	132.7	53	219.4	9.7	1.9	-8	668.2
magraphics (5)	SUGR	7.5	20	16254.3	8	12883.3	8	73.9	-8	160.6	10.1	-0.3	NM	NEG
erMac Technology	SMAC	9.4 **	62	24420.8	2	23754.2	3	125.0	55	324.7	7.5	9.6	136	97.9
bol Technologies	SBL	18.0	80	8202.1	14	5745.6	15	344.9	8	157.4	5.2	-22.5	NM	NEG
xx	XRX	922.0	4	9285.0	12	7880.6	12	17040.0	3	171.6	5.4	171.0	-82	539.2

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES			PROFITS		
		CHANGE FROM 1991 \$ MIL	1991 %	1992 \$	PER EMPLOYEE		CHANGE FROM 1991 %	1992 \$ MIL	PER EMPLOYEE \$ THOUS	R&D AS % OF SALES	CHANGE FROM 1991 %	1992 \$ MIL	R&D AS % OF PROF
					1992 RANK	Avg 1988-92 \$							
(G) SOFTWARE & SERVICES													
GROUP COMPOSITE		2164.2	21	23444.1	23	772.4	16356.5	22	173.4	13.2	2517.7	42	86
Adobe Systems (11)	ADBE	49.6 *	49	55929.0	4	4048.5	265.9	16	299.8	18.7	69.5	-17	7
Aldus	ALDC	27.8	19	27618.7	23	22375.9	174.1	4	172.9	16.0	9.9	-71	280
American Software (4)	AMSWA	9.0	50	9853.1	43	6895.5	113.1	11	124.0	7.9	27.9	5	32
Artisoft (6)	ASFT	3.1	112	6260.5	44	6100.0	73.2	79	146.8	4.3	21.1	103	12
Autodesk (1)	ACAD	56.6	47	36152.7	6	27378.1	367.7	29	235.0	15.4	69.8	-24	6
Banyan Systems	BNYT	14.4	8	22154.3	33	22154.3	113.5	13	175.1	12.7	13.1	174	109
BMC Software (3)	BMCS	28.0	26	35835.0	9	35026.6	184.6	44	236.1	15.2	66.8	83	40
Boole & Babbage (9)	BOOL	14.9	6	23196.7	32	16758.6	110.5	10	171.6	13.5	7.7	NM	190
Borland International (3)	BORL	62.9	-19	47275.0	3	27697.3	482.5	6	362.5	13.0	-124.6	NM	N
Broderbund Software (8)	BROD	10.9	54	32248.5	12	29151.9	75.1	35	222.1	14.5	15.5	33	70
Cadence Design Systems	CDN	77.6	-3	31022.4	16	30055.0	434.5	11	173.8	17.9	68.5	NM	110
Ceridian	CEN	30.5	-12	3465.9	45	8710.2	830.3	9	94.4	3.7	-24.0	NM	N
Computer Associates International (3)	CA	202.3	10	27339.0	24	23993.4	1508.8	16	203.9	13.4	267.1	25	70
Computervision	CVN	106.9 **	-14	NA	47	NA	1065.6	12	NA	10.0	-112.2	NM	N
Compuware (3)	CPWR	41.8	166	25668.1	26	25668.1	175.0	23	107.6	23.9	-28.9	NM	N
Comshare (6)	CSRE	18.1	26	17993.0	37	10800.5	119.2	3	119.5	15.1	-13.0	NM	N
Continuum (3)	CONU	42.6 *	1	39481.5	6	32856.0	125.9	12	116.6	33.9	14.9	-4	28
Electronic Arts (3)	ERTS	17.4	66	36917.0	7	30284.7	162.1	56	345.0	10.7	24.3	80	7
Evans & Sutherland Computer	ESCC	31.3	-2	24109.2	29	25242.8	148.6	3	114.3	21.1	11.0	-28	284
Frame Technology	FRAM	14.9	30	30139.4	18	33028.4	76.6	45	154.7	19.5	9.0	102	161
Informix	INF	34.5	44	13364.0	30	15588.0	283.6	58	196.3	12.1	61.7	345	507
Interleaf (3)	LEAF	18.1 **	4	21296.4	34	18300.7	100.3	19	118.0	18.0	6.5	NM	27
Intersolv (4)	INTS	12.2	-32	26447.1	25	26447.1	79.1	10	170.9	15.5	8.4	NM	14
KnowledgeWare (6)	KNOW	23.4	67	27845.2	10	19959.9	115.1	-7	137.0	20.3	0.9	-96	2550
Legent (9)	LENT	60.2	27	28642.9	20	22881.4	426.7	22	203.2	14.1	46.8	-14	128
Logicon (3)	LGN	2.9	11	828.0	46	803.3	297.8	15	85.1	1.0	18.6	32	16
Lotus Development	LOTS	140.5	8	31933.6	14	32207.3	900.1	9	204.6	15.6	120.0	77	110
MacNeal-Schwendler (1)	MNS	12.9	41	42281.0	5	41360.8	65.5	17	214.0	19.8	18.7	NM	69
Marcam (9)	MCAM	14.6 *	49	23479.0	31	22467.8	80.3	42	129.6	8.1	13.1	69	11
Microsoft (6)	MSFT	352.2	50	30510.5	17	28692.5	2758.7	50	239.0	12.8	1041.3	55	30
Novell (10)	NOVL	125.3	52	34444.3	11	28296.2	933.4	46	256.6	13.4	377.3	52	30
Oracle Systems (5)	ORCL	125.5	27	15379.4	40	1806.4	1178.5	15	144.4	18.6	96.1	NM	130
Parametric Technology (9)	PMTC	7.8	38	14893.3	41	18561.9	86.7	94	165.2	9.0	33.2	109	20
Phoenix Technologies (9)	PTEC	15.0 **	-4	43874.6	4	41666.6	71.0	28	206.9	21.2	4.2	390	354
Policy Management Systems	PMS	79.5	17	18229.6	36	14176.3	497.1	20	113.9	18.0	91.4	26	8
Progress Software (11)	PRGS	12.7	82	20151.0	35	17785.7	65.1	46	135.2	14.9	15.0	56	56
Ross Systems (6)	ROSS	9.1	2	15567.5	39	16621.2	75.9	23	129.7	12.0	7.0	173	130
Software Publishing (9)	SPC	34.9	-38	48622.0	2	46454.8	156.4	9	218.2	22.3	0.8	NM	443
Software Toolworks (3)	TW	3.3	26	NA	48	NA	102.6	54	NA	3.2	-14.5	NM	N
Sterling Software (9)	SSW	23.7	31	11000.9	42	10166.2	259.3	17	120.6	9.1	23.9	42	96
Structural Dynamics Research	SDRE	29.2	17	25277.3	27	20339.4	163.6	12	141.8	17.8	21.4	-23	130
Sybase	SYBS	46.8 **	60	28773.8	20	28055.0	264.6	65	162.6	17.7	39.5	187	110
Symantec (3)	SYMC	35.6	78	32802.0	11	27322.5	216.6	62	199.5	16.4	28.8	101	12
Synopsis (9)	SNPS	10.2	51	24786.4	28	25687.3	63.0	56	152.9	16.2	10.2	108	9
System Software Associates (10)	SSAX	20.8	66	17333.3	38	15890.4	228.8	57	190.7	9.1	41.6	75	5
Systems Center	SMX	27.8	22	32033.4	13	26276.4	131.0	7	150.9	21.2	-10.6	NM	N
Viewlogic Systems	VIEW	11.4	28	31840.8	15	29193.4	65.8	37	183.7	17.3	10.0	87	11
Walker Interactive Systems	WALK	13.7	23	29215.8	19	29806.8	62.9	41	134.3	21.8	11.9	164	11
(H) SYSTEM DESIGN													
GROUP COMPOSITE		306.1	5	13947.2	12	381.3	2939.7	5	133.9	10.4	-183.8	NM	N
ASK Group (6)	ASK	42.4	29	18585.4	3	18155.8	432.4	17	189.5	9.8	-47.7	NM	N
Auto-tral Technology (9)	ATTC	10.3	5	17550.4	4	13757.8	58.9	9	100.7	17.4	-9.1	NM	N
Bolt Beranek & Newman (6)	BBN	33.7	4	16170.7	6	11498.5	258.0	5	123.7	13.1	4.2	56	81
Cerner	CERN	9.7	34	14845.3	7	11064.8	101.1	3	154.9	9.6	15.3	116	5
FileNet	FILE	16.7	32	16558.6	5	15505.0	138.3	13	137.4	12.0	-9.8	NM	N
HBO	HBOC	21.6	-1	12577.5	8	9812.1	202.2	18	117.8	10.7	19.9	NM	101
Landmark Graphics (6)	LMRK	14.2	17	26286.0	2	26899.7	81.9	-9	151.0	17.4	-7.3	NM	N
MAI Systems (9)	MCO	15.9	-13	7647.7	10	5375.3	279.4	-17	134.4	5.7	-176.2	NM	N

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE				1992 \$ MIL.	CHANGE FROM 1991 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1992 \$ MIL.	CHANGE FROM 1991 %	R&D AS % OF PROFITS
				1992	1992	1988-92	1988-92							
				\$	RANK	\$	RANK							
Medic Computer Systems	MCSY	2.2	54	4849.1	13	4199.2	13	68.3	25	153.8	3.2	10.0	NM	21.6
Senior Graphics	MENT	79.8	4	35858.9	1	28638.9	1	350.8	-12	157.6	22.8	-48.3	NM	NEG
Recognition International (10)	REC	11.9	5	7021.2	12	5633.5	11	199.2	28	117.5	6.0	9.3	33	127.7
Shared Medical Systems	SMED	33.7	0	8547.5	9	8659.9	9	468.0	7	118.7	7.2	45.0	14	74.8
Tan	TTN	4.0	2	3116.0	14	2131.9	14	148.8	2	115.8	2.7	4.5	26	89.9
Rad Systems (9)	TRSC	10.1	-1	7149.8	11	7096.3	10	152.6	11	108.3	6.6	5.5	103	183.2

PAPER & FOREST PRODUCTS

INDUSTRY COMPOSITE		444.7	0	1970.9	1993.3	40846.6	3	181.0	1.1	1299.1	7	34.2		
Adger Paper Mills	BPMI	7.0	900	11843.7	1	3563.7	1	72.2	4	121.3	9.8	-9.3	NM	NEG
Pacific Cascade	BCC	11.8	7	684.3	11	573.9	11	3715.6	-6	215.7	0.3	-252.5	NM	NEG
Consolidated Papers	CPER	5.5	-21	1114.0	9	1148.9	10	904.2	4	183.2	0.6	81.2	-44	6.8
Johnson Burnes Group	HBGI	1.2	71	2040.8	6	2040.8	6	127.4	14	216.6	0.9	-8.1	NM	NEG
James River Corp. of Virginia	JR	43.8	-5	1134.7	8	1155.8	9	4728.2	4	122.5	0.9	-188.1	NM	NEG
Kimberly-Clark	KMB	156.1	5	3638.5	2	3297.5	2	7091.1	5	165.3	2.2	544.8	-28	28.7
Mead	MEA	39.4	2	1931.4	7	1887.4	7	4703.2	3	230.6	0.8	61.5	-53	64.1
Scott Paper	SPP	61.2	-5	2292.1	3	2245.0	4	4886.2	4	183.0	1.3	234.8	NM	26.1
Union Camp	UCC	44.5	4	2208.1	4	2422.1	3	3064.4	3	152.1	1.5	65.4	-68	68.0
Westvaco (10)	W	31.2	3	2149.0	5	2078.3	5	2335.6	2	160.9	1.3	206.1	-9	15.1
Weyerhaeuser	WY	43.0	-24	1101.5	10	1324.1	8	9218.7	6	236.2	0.5	563.3	NM	7.6

SERVICE INDUSTRIES

INDUSTRY COMPOSITE		135.4	5	915.8	1355.0		18874.2		13	108.6	0.7	884.0	61	15.3
Alter Mfg.	BTLR	1.9	17	599.6	13	631.7	14	500.2	9	157.8	0.4	2.4	NM	77.6
Algon Carbon	CCC	6.2	5	4192.6	2	3767.8	2	298.4	-3	201.6	2.1	44.0	-28	14.1
Chemicals Research	DRCO	1.5	110	1230.4	8	801.9	9	102.6	5	86.3	1.4	6.5	11	22.4
EG&G	EGG	32.1	30	944.1	9	766.5	10	2788.8	4	82.0	1.2	121.1	1	26.5
Frederick & Wheeler	FWC	6.9	-8	691.4	12	688.9	11	2494.8	25	250.0	0.3	70.3	10	9.8
Libert Associates	GILBA	1.7	-18	465.0	15	515.7	15	296.5	9	81.3	0.6	15.0	180	11.3
Marshall Resource Development	HHRD	2.6	16	3761.8	3	2843.3	3	100.8	42	148.2	2.5	23.6	139	10.8
Information Resources	IRIC	6.1	11	1299.3	7	1162.8	7	276.4	24	58.7	2.2	32.2	32	19.0
Empower	MAN	3.1	-6	NA	18	NA	18	3186.6	14	NA	0.1	-13.3	NM	NEG
Dermott International (3)	MDR	21.3 **	-8	722.0	11	873.2	8	3524.5	15	119.5	0.6	142.9	NM	14.9
National Education	NEC	20.0	11	4444.4	1	4072.3	1	375.0	-3	83.3	5.3	1.1	-90	1774.6
National Patent Development	NPD	4.6	0	2406.7	4	2402.5	4	195.8	-24	101.4	2.4	-16.0	NM	NEG
Premier Industrial (5)	PRE	3.4	0	772.7	10	686.9	12	640.8	1	145.6	0.5	124.8	6	2.7
Science Applications (1)		8.2	-12	550.5	14	633.0	13	1503.8	17	100.5	0.5	60.1	8	13.7
Tele Industries	TAL	3.9	-8	1374.6	6	1175.2	6	319.6	-3	112.5	1.2	0.0	NM	9522.0
VRLN (1)	VRIN	3.6	28	1820.9	5	1628.6	5	266.1	15	134.2	1.4	14.4	96	25.1
VLT Information Sciences (10)	VOLT	5.7	-1	345.1	16	390.4	16	520.7	10	31.6	1.1	1.8	NM	320.8
Wellbriator Technologies	WTI	2.6	-34	286.0	17	346.7	17	1483.1	26	164.8	0.2	253.1	26	1.0

TELECOMMUNICATIONS

INDUSTRY COMPOSITE		3690.4	-3	5678.3	11599.1	117423.2	3	180.7	3.1	13550.3	113	27.2		
C Telecommunications (10)	ADCT	36.1 **	12	15659.1	10	12108.8	12	316.5	8	137.4	11.4	34.7	-5	103.9
American Telephone & Telegraph	T	2911.0	-7	9309.2	15	9165.6	15	64904.0	3	207.6	4.5	5902.0	568	49.3
Nextel Telecommunications	ASPT	8.8	18	23176.3	5	19087.3	4	71.0	61	186.9	12.4	6.6	NM	133.9
Verizon Wireless	BLS	46.3	10	476.8	23	455.7	23	15148.9	5	156.0	0.3	2631.2	15	1.8
Globalstar	CMDL	3.8 **	13	4677.4	18	3601.0	19	65.5	4	80.9	5.8	0.9	NM	421.9
Communications Satellite	CQ	15.3	-13	9302.3	16	10401.8	14	563.6	8	342.8	2.7	66.8	-35	22.9
Communications	DIGI	86.9	0	26319.3	3	21389.3	3	536.3	16	162.5	16.2	16.9	NM	514.3
Scout24 Information Systems	XTON	8.3 **	8	3763.2	20	3264.8	20	279.6	5	127.1	3.0	4.1	92	204.0
General DataComm Industries (9)	GDC	23.1	15	12906.0	13	11002.9	13	197.9	3	110.7	11.7	3.0	238	767.2
GTE	GTE	203.0	7	1549.6	22	1624.4	21	19984.0	2	152.6	1.0	2889.0	25	7.0
Illicall	ICL	3.6	13	15183.0	11	15183.0	9	154.5	-28	657.5	2.3	-29.6	NM	NEG
IrTel	INTL	3.9	8	6537.4	17	6560.5	17	78.8	19	131.1	5.0	4.9	219	80.3
A-Com (9)	MAI	19.0	13	4519.6	19	3764.8	18	375.2	-2	89.2	5.1	14.6	-30	130.0
Procom (3)	MNPI	12.5	1	30869.1	2	23278.5	2	73.9	33	182.5	16.9	4.1	NM	302.4
Tex	NYN	131.7	22	1608.1	21	1305.5	22	13155.0	-1	160.6	1.0	1881.6	137	7.0
El Communications (6)	OCTL	25.4	23	19662.5	7	15505.8	8	188.8	18	146.2	13.5	30.5	13	83.3

R&D SCOREBOARD

COMPANY	STOCK SYMBOL	R&D EXPENSES						SALES				PROFITS		
		CHANGE FROM 1991			PER EMPLOYEE			CHANGE FROM 1991		PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1991		
		1992		1992	1992	1988-92	1988-92	1992				1992		
		\$ MIL	%	\$	RANK	\$	RANK	\$ MIL	%			\$ MIL	%	PROFIT
PictureTel	PCTL	23.1	111	34397.9	1	28364.9	1	141.4	81	210.7	16.3	13.3	96	173
Scientific Atlanta (6)	SFA	52.3	6	16333.4	9	12256.1	11	580.8	18	181.5	9.0	21.7	NM	240.
Silicon General (6)	SGEN	5.9	31	11317.4	14	7108.1	16	68.8	11	131.5	8.6	2.8	37	209.
Telco Systems (8)	TELC	11.7	37	24504.2	4	17674.3	7	96.7	-6	202.2	12.1	9.2	-32	127.
Tellabs	TLAB	42.5	14	19162.9	8	14622.0	10	258.6	22	116.7	16.4	19.2	173	221.
U. S. Robotics (9)	USRX	10.2	42	21246.3	6	17945.5	6	112.4	46	234.7	9.1	17.6	45	57.
VMX (6)	VMXJ	6.2	-18	13281.7	12	18622.1	5	71.0	25	152.7	8.7	5.2	NM	118.

ALPHABETICAL LIST OF COMPANIES

The number following each company name identifies the Scoreboard category under which it is listed

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The number following each company name identifies the Scoreboard category under which it is listed

The number following each company name identifies the Scoreboard category under which it is listed

BUSINESS WEEK/JUNE 28, 1993 125

INTERNATIONAL COMPANIES

GLOSSARY

CRITERIA: Data are for the most recent fiscal year reported as of April 30. Sales, Profits, and R&D Expenses were converted into millions of U.S. dollars using a 12-months' moving exchange rate based on the company's fiscal year; percentage changes from prior year were calculated using the local currency. Companies included in the survey are the 200 international companies reporting the greatest research and development expense.

PROFITS: Pretax income as reported by the company.

R&D EXPENSES: Dollars spent on company-sponsored research and development for the most recent fiscal year. Normally excludes R&D under contract to others, such as government agencies.

DATA: GLOBAL VANTAGE (STANDARD & POOR'S COMPUSTAT SERVICES)

FOOTNOTES ON PAGE 127

R&D RANK	COMPANY	COUNTRY CODE	SALES	%CHG	PROFITS	%CHG	R&D	%CHG
1	Siemens	GER	11011	-7	2009	-1	5322	0
2	Hitachi	JPN	10347	-1	2819	-33	3907	-1
3	Matsushita Electric Indus	JPN	9600	13	2733	-39	144	9
4	Fujitsu	JPN	25883	16	312	-73	2947	9
5	Alcatel Alsthom *	FRA	28499	-	505	19	1055	21
6	Toshiba	JPN	10513	1	864	-56	2392	0
7	NEC	JPN	28079	-2	187	-62	2274	8
8	Nippon Telegraph & Telephone	JPN	48116	2	3246	-14	2157	5
9	Philips Electronics *	NLD	30696	2	852	NM	2079	10
10	Fiat *	ITA	47753	-	244	-48	1723	-
11	Hoechst	GER	30136	-3	104	-	868	-
12	Sony	JPN	29444	-	1483	15	304	17
13	Ciba-Geigy	CHE	15869	5	NM	NM	1678	8
14	Volkswagen *	DEU	48487	10	650	-16	1655	8
15	Honda Motor	JPN	33027	-1	480	-1	447	-
16	Imperial Chemical Industries	GBR	11600	8	-678	NM	1328	8
17	BASF	DEU	19000	-2	700	-4	1315	-
18	Mitsubishi Electric	JPN	2214	-	100	-4	207	5
19	Volvo	SWE	4000	-	100	NM	100	10
20	Roche Holding *	CHE	1000	18	1427	-4	200	20
21	Peugeot *	FRA	28652	0	500	-40	88	10
22	L.M. Ericsson *	SWE	7657	-	349	-10	70	44
23	Glaxo Holdings	GBR	7229	20	210	-	147	15
24	BCE	CAN	17000	5	2164	4	1041	3
25	Rhone-Poulenc *	FRA	1400	-	780	-4	100	-
26	Northern Telecom	CAN	1400	-	780	-	100	5
27	Mitsubishi Heavy Industries	JPN	10000	0	1400	-	1000	-
28	Sandoz *	CHE	1000	-	1000	NM	930	10
29	Royal Dutch/Shell (combined)	NLD	60000	6	9383	-2	881	5
30	SmithKline Beecham	GBR	10000	-	1000	-	1000	-
31	Unilever (combined)	NLD	40000	0	3587	-	816	0
32	Nippondenso *	JPN	1000	-	905	0	797	5
33	Canon	JPN	1000	-	800	-3	784	5
34	Sharp	JPN	1000	-	800	-17	760	-
35	Fora-Werke *	GER	1000	-	700	-56	759	47
36	Elf Aquitaine *	FRA	1000	-	1000	-	700	-
37	General Electric Co.	GBR	1000	-4	400	-	724	-4
38	Sanyo Electric	JPN	1000	-3	400	-	700	-4
39	Fuji Photo Film	JPN	1000	-	400	-	580	-
40	Schering *	DEU	1000	-	400	0	584	0
41	British Petroleum	GBR	1000	-	1000	-	1000	-
42	Akzo	NLD	9632	-	640	-	530	4
43	Thomson-CSF *	FRA	620	-	200	-	100	-
44	Compagnie des Machines Bull *	FRA	1000	-3	-590	NM	100	-4
45	Alcatel-SEL *	GER	1000	0	7	-	484	0
46	AEG *	DEU	8800	-	-357	NM	464	-2
47	Wellcome	GBR	3192	-	25	25	459	11
48	Takeda Chemical Industries	JPN	5337	3	645	-18	449	12
49	Ferruzzi Finanziaria *	ITA	4000	-	1000	-	445	-
50	Ricoh	JPN	1000	-	800	-72	439	8
51	Nestle *	GBR	35359	-	2804	-	439	-
52	Sumitomo Chemical *	JPN	8074	-	254	0	437	8
53	Asea Brown Boveri *	DEU	1000	10	1000	-	428	-
54	British Telecommunications	GBR	29360	-	5333	-	416	-1
55	Mannesmann *	DEU	15174	-	550	-13	413	-1
56	Rolls Royce	GBR	6290	-	-325	NM	404	0

R&D RANK	COMPANY	COUNTRY CODE	SALES	%CHG	PROFITS	%CHG	R&D	%CHG
57	Solvay *	BEL	7802	-	379	-48	378	-
58	Olivetti *	ITA	6972	-5	-320	NM	374	-
59	Coles Myer	AUS	1000	-	438	0	363	-
60	Elf Sanofi *	FRA	3512	5	208	8	331	-
61	Enichem *	ITA	10870	10	-458	NM	331	-
62	Oki Electric Industry	JPN	5123	3	15	-91	329	-
63	Matsushita Electric Works *	JPN	7998	-4	629	3	327	-
64	Procordia *	SWE	6362	4	549	197	298	-
65	L'Oreal *	FRA	5954	10	588	10	297	-
66	Komatsu	JPN	6917	-7	315	5	285	-
67	Fujisawa Pharmaceutical	JPN	2087	-	104	-17	282	-
68	Roussel Uclaf *	FRA	2596	10	149	-	277	-
69	British Aerospace	GBR	17986	-5	-2121	NM	267	-
70	VEBA *	DEU	37321	9	1765	6	266	-
71	Astra *	SWE	2169	33	550	32	265	-
72	Kao	JPN	5489	10	326	5	263	-
73	Pirelli *	ITA	8338	-	-552	NM	261	-
74	Kubota	JPN	6837	2	277	-6	258	-
75	Omron	JPN	3634	-4	49	-55	253	-
76	Toray Industries	JPN	7345	7	427	-13	250	-
77	Compagnie de Saint-Gobain *	FRA	13364	9	889	-24	246	-
78	Henkel *	DEU	7880	-8	449	8	242	-
79	Yamanouchi Pharmaceutical	JPN	2688	16	563	2	240	-
80	Nokia *	FIN	3836	-30	99	-46	232	-
81	DSM *	NLD	5000	-7	1000	-50	228	-
82	Eisai	JPN	602	-4	265	-12	228	-
83	Merck AG *	CHE	5000	-	201	10	212	-
84	Daiichi Pharmaceutical	JPN	5000	3	337	-17	205	-
85	Pioneer Electronic	JPN	4000	2	441	-16	200	-
86	TDK	JPN	4022	-	364	-23	198	-
87	Kyocera	JPN	3410	-2	436	-10	187	-
88	Philips Kommunikations *	DEU	1514	31	174	NM	196	-
89	Olympus Optical	JPN	4000	5	50	-54	90	-
90	Teijin	JPN	4752	0	280	-22	80	-
91	Mitsui Petrochemical Inds.	JPN	2717	-	100	-29	80	-
92	Pechiney *	FRA	13370	-3	408	-66	78	-
93	Konica	JPN	4026	-1	48	-39	176	-
94	Lucas Industries	GBR	4032	-5	40	-73	75	-
95	Ascom Holding *	CHE	2161	-	45	-13	70	-
96	TOTAL *	FRA	25462	-	1408	7	170	-
97	Mitsubishi Petrochemical	JPN	3952	-6	100	-58	171	-
98	Tanabe Seiyaku	JPN	1000	6	100	-	169	-
99	Electrolux *	GBR	1000	-4	171	-	168	-
100	Shin-Etsu Chemical	JPN	3597	2	366	-9	166	-
101	CAE Industries (I)	CAN	909	-5	46	46	166	-
102	Gebruder Sulzer *	CHE	4556	4	138	-20	165	-
103	BTR	GBR	15613	31	1916	18	164	-
104	Chugai Pharmaceutical *	JPN	1000	8	63	-9	163	-
105	Kyushu Matsushita Electric	JPN	1000	5	100	0	160	-
106	British Gas	GBR	18108	-2	300	-47	157	-
107	Valeo *	FRA	3537	-2	106	28	154	-
108	Fisons	GBR	1000	5	218	-35	154	-
109	Furukawa Electric	JPN	5679	-5	145	-8	150	-
110	BOC Group	GBR	4957	0	390	-31	147	-
111	Landis & Gyr	CHE	1000	12	100	19	146	-
112	Magneti Marelli *	ITA	2663	-4	-126	NM	145	-

INTERNATIONAL COMPANIES

RANK COMPANY	COUNTRY CODE	SALES	%CHG	PROFITS	%CHG	R&D	%CHG
1 Reuters Holdings	GBR	2768	7	677	13	139	17
2 Pasteur-Merieux	FRA	1024	17	106	105	139	12
3 Rascal Electronics	GBR	3141	-13	267	31	138	-17
4 Murata Manufacturing	JPN	2109	1	387	0	136	10
5 L'Air Liquide *	FRA	5677	10	700	5	135	3
6 Casio Computer	JPN	2883	14	170	2	129	12
7 Daikin Industries	JPN	3414	8	209	-24	128	20
8 Taisho Pharmaceutical	JPN	1430	10	401	14	127	12
9 Pirelli Tyre Holding *	NLD	3350	-2	-126	NM	125	-3
10 Alcan Aluminium	CAN	7596	-2	-177	NM	125	-5
11 Synthelabo *	FRA	629	4	92	139	124	8
12 Nippon Oil	JPN	21248	13	669	10	122	3
13 Yokohama Rubber *	JPN	3284	4	94	-39	119	5
14 Siebe	GBR	2841	10	294	7	118	23
15 Ericsson *	ITA	1099	-4	178	3	117	4
16 Sandvik *	SWE	2912	-4	296	-37	114	7
17 Ares-Serono *	CHE	751	15	108	7	113	20
18 Linde *	DEU	4288	13	286	4	110	19
19 SAP *	DEU	437	43	105	63	104	57
20 Boots	GBR	6344	2	649	4	102	10
21 Shiseido	JPN	4161	7	342	-6	99	7
22 Kuraray	JPN	2675	5	177	-5	97	19
23 Hafsund Nycomed *	NOR	855	27	198	26	96	29
24 De Beers Consolidated Mines *	ZAF	N	NA	286	-4	95	17
25 RTZ	GBR	5785	-9	948	-4	95	-8
26 Nikon	JPN	2048	11	91	-62	94	-2
27 OCE-van der Grinten	NLD	1521	3	66	-19	94	-7
28 Outokumpu *	FIN	3131	12	-135	NM	94	9
29 Pilkington	GBR	4570	-2	134	-49	91	-7
30 Oerlikon-Buhrle Holding *	CHE	2413	-21	-121	NM	91	-37
31 SKF *	SWE	4402	-5	-187	NM	89	1
32 Sextant Avionique *	FRA	1022	-7	-111	NM	89	-68
33 Nippon Sheet Glass	JPN	2239	5	75	-22	88	2
34 Green Cross *	JPN	756	7	60	23	85	9
35 Yoshitomi Pharmaceutical	JPN	630	12	73	36	84	17
36 Linotype-Hell *	DEU	778	58	0	NM	83	82
37 Pechiney International *	FRA	8064	5	256	-26	83	13
38 Smiths Industries	GBR	1133	-3	182	15	82	5
39 Finanziaria Ernesto Breda *	ITA	674	-11	-30	NM	82	-20
40 Dainippon Pharmaceutical	JPN	853	8	81	-26	78	12
41 Ono Pharmaceutical	JPN	597	6	208	-17	78	5
42 Atlas Copco *	SWE	2493	-6	151	-28	77	2
43 Hitachi Metals	JPN	3525	-3	172	-35	76	10
44 BSN *	FRA	11762	25	1101	56	75	16

R&D RANK COMPANY	COUNTRY CODE	SALES	%CHG	PROFITS	%CHG	R&D	%CHG
157 B.A.T. Industries	GBR	21430	7	2905	57	72	14
158 Lyonnaise des Eaux-Dumez *	FRA	16272	21	421	3	71	0
159 Tappan Printing	JPN	8836	11	661	13	70	221
160 TI Group	GBR	2030	28	154	-17	69	58
161 Nitto Denko	JPN	1955	4	102	9	69	7
162 Imperial Oil	CAN	7414	-2	375	66	69	-24
163 UCB *	BEL	1426	12	68	-17	67	9
164 Hitachi Maxell	JPN	1325	-5	70	-40	66	1
165 Steyr-Daimler-Puch *	AUT	1631	28	21	2	65	0
166 Courtaulds	GBR	3371	2	350	8	65	4
167 Grand Metropolitan	GBR	14562	-9	1679	-4	64	3
168 Kureha Chemical Industry	JPN	728	5	4	-73	63	-5
169 Toyo Seikan Kaisha	JPN	5393	8	531	13	63	17
170 Ishihara Sangyo Kaisha	JPN	796	30	23	-44	62	6
171 Burmah Castrol *	GBR	4163	37	293	0	60	93
172 T&N	GBR	2455	2	111	28	60	18
173 Rohm	JPN	1541	8	131	35	60	-8
174 Sumitomo Metal Mining	JPN	4054	-6	133	-30	59	-1
175 Valmet *	FIN	1903	-24	172	NM	58	-25
176 BBA Group	GBR	2340	6	84	-4	57	11
177 NGK Spark Plug	JPN	808	1	56	-28	56	-6
178 Carnaud Metalbox *	FRA	4540	4	308	23	56	8
179 Akzo Faser *	DEU	1296	-9	66	12	55	-2
180 Unihika	JPN	2945	2	113	26	55	16
181 Svenska Cellulosa	SWE	5591	-2	78	-63	53	16
182 CRA *	AUS	3854	8	564	17	53	-4
183 Sekisui House	JPN	8597	5	693	3	53	7
184 Amada	JPN	1343	13	207	29	52	7
185 Mitsui Engineering & Shipbuilding	JPN	2533	-4	72	104	52	19
186 Advantest	JPN	607	-8	49	-51	51	26
187 Broken Hill Proprietary	AUS	11121	-7	1022	-35	50	4
188 Immuno International *	CHE	386	12	39	3	50	12
189 Bremer Vulkan Verbund *	DEU	1978	-19	57	93	50	NA
190 Stork	NLD	2079	2	47	-52	48	-8
191 EBF *	FRA	2035	30	41	-26	48	67
192 Nippon Zeon	JPN	1221	-3	15	-66	47	5
193 Ajinomoto	JPN	5093	14	166	21	47	12
194 Hanson	GBR	15969	14	2334	-3	47	24
195 Bombardier	CAN	2670	8	105	-1	47	NA
196 Krauss-Maffei (I) *	DEU	879	0	26	5	47	-43
197 Inco	CAN	2559	15	22	-82	46	16
198 Toyama Chemical *	JPN	290	-22	23	-14	46	6
199 Nippon Shinyaku	JPN	369	2	47	10	46	2
200 Gambio *	SWE	932	30	99	46	46	25

ALPHABETICAL LIST OF COMPANIES

The number following each company name indicates its rank

186 46 117 193 42 179 122 5 45 184 129 95 Brown Boveri 53 71 154 17 157 176 24 110 195 132 110 189 69 106 41 Telecommunications 54 187	156 103 171 101 33 178 118 104 13 59 166 182 84 119 152 136 81 191 82 99 36 60 127 22 49 10 108 35	39 67 4 109 200 37 23 167 146 135 194 78 164 155 11 15 188 16 162 170 72 66 93 196 74 134 168	87 105 111 130 148 94 158 44 112 55 3 63 83 18 27 97 185 91 116 7 51 177 138 124 145 199 8 192 32	161 80 26 139 142 62 58 89 75 153 65 140 114 92 149 21 9 88 141 85 73 121 64 115 113 25 50 20 173	56 68 29 137 77 28 128 38 131 40 183 144 34 100 126 1 143 30 150 57 12 165 190 102 52 174 181 123	172 120 48 98 86 90 43 160 159 76 6 96 198 169 163 31 180 107 175 70 14 19 47 79 125 147
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for fiscal 1992; (1) Data includes R&D for customers or government (2) Includes engineering expense; AUS = Austria, BEL = Belgium, CAN = Canada, CHE = Switzerland, DEU = Germany, DNK = Denmark, FIN = Finland, GBR = Britain, ITA = Italy, JPN = Japan, NLD = Netherlands, NOR = Norway, NUK = Netherlands/Britain combined, SWE = Sweden, ZAF = South Africa

SMART HOUSES: GETTING SWITCHED ON

Here's one vision of morning paradise: Instead of getting jarred out of bed by a blaring alarm clock, soft music from a compact-disk player nudges you into consciousness. Your curtains glide open automatically to let in the light. You crawl out of bed into a perfectly controlled climate. In the bathroom, the shower is on, set to just the right temperature. Downstairs, the coffee-maker has gurgled to life.

No, this scenario is not limited to episodes of *The Jetsons* or *Lifestyles of the Rich and Famous*. Ordinary mortals can now enjoy such comforts, thanks to the wizardry and affordability of modern home-automation systems.

EASY LOCKUP. Automated home systems were available two decades ago for technofanatics willing to pay \$20,000 to \$200,000. Meanwhile, most of us have been using home-automation devices—garage-door openers, sprinkler systems, and security networks—for years. Now, thanks to computer miniaturization and technology advances, it's possible, at reasonable prices, to link these once-separate systems into an integrated whole. Networks sold by American Telephone & Telegraph, Home Automation, Honeywell, and others offer standardized systems in the \$3,500-to-\$5,000 range that can turn an ordinary home into a high-tech castle.

The home-automation security component does a lot more than the average alarm, for example. It can lock all the doors at night,

sense intruders, turn the lights on when the house is empty, spotlight escape routes, and call the police or fire department in an emergency. Lighting systems will turn on a porch light at dusk or turn off hall lights at dawn. Sprinklers will sense if the garden needs water or if it has rained.

Automation also saves money. Turning off heat in the middle of the night, switching off air-conditioning when everyone is away, turning out lights when people leave a room—such features have been shown to cut utility bills by an average of 20% to 30%.

And home automation systems can make it easier for

people with varied needs to live together. Honeywell's TotalHome could be programmed to call a parent at work if a child doesn't get home on time and key in a code. Another might automate appliances, say, setting the oven to start the roast, and incorporate emergency alert systems to help an elderly or disabled person stay independent. Some systems can be operated by voice or simply by blowing on a microphone. Interactive Technologies' Care-Taker Plus features motion sensors and alerts someone if an elderly person hasn't moved in a set period of time. Panic buttons can be placed around the house for a person to summon help.

Networks usually

manage a variety of functions such as temperature, light, water, appliances, entertainment, and security through some type of centralized control: a hall panel, a control box by the bed, a computer. Capabilities and prices vary widely, depending on how many functions are included and how they are linked. Off-the-line networks such as Custom Command Systems and Unity Systems close windows when a thunderstorm hits and turn on air-conditioning to compensate. More technologies simply let when a window is open.

Systems fall into a few general categories. Standard automation packages that have been introduced in the past year are perhaps the easiest



n for a person with limited time, money, and technical expertise. Such systems work with radio signals, communicate over existing electrical wire, avoiding expensive rewiring.

A typical package might include 10 security "points of control," windows or doors that would be linked to the system; and control 10 outlets that could be used to turn lights or appliances off on or to change temperature. Such networks can even be operated remotely by using digital codes into a remote. Many systems such as SMART HOUSE include standard features such as "on vacation" mode.

If you want sensors linked to more than 10 windows or doors, or if you want to control more than 10 appliances with light switches, you may want a customized system. In the past, this has been the expensive route to home automation, involving extensive design and rewiring. Companies such as Custom Command have created elaborate systems for celebrities.

WHO'S WHO IN HOME AUTOMATION

Company/Telephone	Product	Price	Company/Telephone	Product	Price
AMX (214) 644-3048	High-end, fully customizable software and wire framework	\$8,000-\$60,000	INTELLIGENT SYSTEMS (203) 793-9951	Security appliances, lights, temperature, entertainment	\$15,000 (for 3,500-sq. ft. home)
CUSTOM COMMAND SYSTEMS (301) 314-7767	Ultra high-end turn-key integrated system	\$40,000-\$600,000	INTELLITRICITY (512) 266-3553	Package of various companies' components that can be made voice-activated	\$125-\$15,000
CRESTRON ELECTRONICS (201) 894-0660	High-end, fully customized whole-house system	\$8,000-\$60,000	JDS TECHNOLOGIES (619) 487-8787	Sells small, modular packages, mostly lights and appliances	\$495
ENERLOGIC SYSTEMS (603) 880-4066	Home controller for lights and appliances only	\$300-\$1,000	MASTERS VOICE (310) 594-6581	Voice-activated systems	\$1,795-\$4,000
HOME AUTOMATION (504) 833-7256	Standardized security, lighting, appliance system	\$1,500-\$5,000	THE SMART HOUSE LTD PARTNERSHIP (301) 249-6000	Built-in proprietary whole-house system of wires, including power, telephone, and audio-visual	\$3 a sq. ft. for wire; \$5,000-\$20,000 for components
HOME AUTOMATION LABORATORIES (800) 466-3522	Mail-order home system. Plus gadget catalog for do-it-yourselfers	\$20-\$3,000	UNITY SYSTEMS (415) 369-3233	Customized whole-house systems	\$5,000-\$25,000
HONEYWELL (612) 954-4592	TotalHome controls fire system and energy system, security, and lights	\$4,000	X-10 USA (201) 784-9700	Standard for wireless control of lights and appliances	\$10-\$500

DATA: PARKS ASSOCIATES

as quarterback Joe Montana and actress Mary Tyler Moore. But networks that heat walkways when the temperature

dips below 32F or close drapes when it gets too hot usually are priced out of most consumers' reach.

In 1984, the National Association of Home Builders started a consortium called SMART HOUSE to encourage home automation. SMART HOUSE released a system in January that builders can use to help clients custom design automated homes. The system employs a backbone of three types of wire: power, telephone, and audio-video.

The features that hook into the network are modular, cutting some design costs. Even rivals say this approach increases reliability and makes engineering sense. It's also pricey. While the wires can be installed for as little as \$2,000 to \$3,000, a fully connected system for a 2,500-square-foot house costs about \$15,000.

DO IT YOURSELF. If you're ambitious, budget-conscious, and not fazed by technical catalogs, it's possible to piece together a system yourself for as little as \$500 to \$1,000. *How to Automate Your Home*

by Dave Gaddis (\$29.95, 405-840-4751) is a good primer on the subject. Home Automation Laboratories in Smyrna, Ga., puts out a catalog of automation products. X-10 USA, a manufacturer of remote controls and automation devices, and Leviton, a switchmaker, produce dozens of automation gadgets, some grouped into packages, that you can install in your home. The downside to some less-expensive systems is they can be thrown off by electrical interference.

While you may not wake up in paradise tomorrow, you can get used to home automation right now. Already technologies have allowed appliances to "talk to each other." A chip attached to the hot-water heater could enable it to tell the dishwasher not to go on until everyone is done taking showers. "It's not a question of if, it's a question of when," says Albert Janjigian, a principal with STAT Resources, a Brookline (Mass.) market research company. "We're going to live in the Jetson environment." All that's missing is a system that automatically hits the snooze alarm. *Heather Millar*



Investing

MUTUAL FUND SHOW AND TELL

Imagine how outraged shareholders would be if they learned that a successful CEO had retired—and the company hadn't bothered to tell anyone. But that sometimes happens with mutual funds. Despite the celebrity status achieved by a handful of managers such as Peter Lynch, formerly of Fidelity's Magellan Fund, companies have been loath to identify—much less promote—the movers behind the funds. And funds haven't always alerted investors to the departure of a popular manager if they feared the news would trigger redemptions.

Thanks to new Securities & Exchange Commission disclosure rules, investors will soon know more about a fund's portfolio manager, investment philosophy, and performance. The changes "will make shareholder reports useful, living documents for investors rather than something that merely satisfies regulatory requirements," says John Rekenhaller, editor of *Morningstar Mutual Funds*, a newsletter.

Under the new SEC mandates, which take effect July 1, funds must provide the names and backgrounds of any key portfolio managers. And if there's a change at the top, fundholders must now be alerted in the next quarterly report. The SEC exempts funds that are managed by committee. That bothers John Markese, president of the American Association of Individual Investors, who frets

that more outfits may simply claim their funds are group-managed as a way of avoiding disclosure.

RISK QUOTIENT? Managers will be required to pen a yearly "management discussion and analysis," similar to what corporate CEOs write for annual reports. The statement should cover investment decisions and market factors that influenced the fund's performance during the previous year.

The SEC is also mandating that companies show, in a line graph, how each of their

funds have performed since inception—and equally important, how each fare against a published securities-market index, such as the Standard & Poor's 500. Fund investors will notice all these changes immediately: Most of the new information will show up in the next annual report, whenever that is published.

Some experts believe SEC's reforms don't go far enough. Peter Thayer, president of The Gateway Trust fund family based in Milford, Ohio, wishes that the SEC required funds to give investors a measure of how their risk managers are taking their securities picks. Thayer also believes that they should create an industry benchmark that would allow investors to compare with their fund's management. "Are they high or low. But that's the fodder for the next set of reforms." *Dean*

Smart Money

THE RIGHT STUFF IN PICKING REITs

property types or in a certain region. "If a REIT is into three or four things, we walk away," says Michael Oliver, portfolio manager of the \$108 million PRA Real Estate Securities Fund in Chicago.

Management becomes even more crucial in the increasingly popular umbrella

partnership REIT, or UPREIT. To form an UPREIT, a number of real-estate partnerships pool properties, exchanging their individual units for an interest in a larger "umbrella" partnership. They then issue a REIT, which raises money in a public offering to purchase units in the umbrella partnership. That makes the partners more liquid. Since they avoid selling their properties to the REIT, they don't pay capital-gains taxes.

SECOND LOOK. Critics say the structure can create conflicts of interest for the original partners, who might worry about the tax consequences of selling properties. For example, the REIT might get a great offer for a property, but the original partners might op-

pose the sale since they could then owe capital-gains taxes.

Oliver also looks for insider ownership. An independent board of directors is another item on his checklist. That nixed a possible investment in Tanger Factory Outlet Centers, a recently issued REIT. The son of the company's CEO and their attorney sit on the five-person board. Oliver feels that could create conflicts.

Examining the REIT's prospectus sheet is also essential. Look for a debt-to-equity ratio of 40% or less and no floating rate debt, says Barry Greenfield, who heads up the \$1 billion Fidelity Real Estate Fund. "If interest rates go up and the interest rate on the debt goes up, it can wipe out earnings," he says. A broader concern: If short-term interest rates rise, REIT yields will be less competitive.

Greenfield says the prospectus will make REITs more attractive by beefing up their disclosures. But as new REITs enter the market, a dose of caution could yield the biggest payoff. *Suzanne*

Wall Street just can't get enough of real-estate investment trusts (REITs). Even as the market for REITs undergoes a correction, analysts expect 1993's issuance to top 1992's record \$6.5 billion, adding \$8 billion or so to the \$21 billion market. Many investors will find the above-average yields of 7% on many REITs enticing. But "when you get this much activity, there will probably be deals that don't work out," says Salomon Brothers real-estate analyst S. Michael Gilberto. Knowing what to look for in a REIT's prospectus can help uncover potential problems in an offering.

The key factor to a REIT's success is dedicated management. Management should have extensive experience with the REIT's class of holdings, be they apartment buildings in an equity (property-owning) REIT, residential loans in a mortgage REIT, or both, in a hybrid REIT. Management should also have a focus, either on one or two

A REIT BUYER'S CHECKLIST

- ▶ Focus on management. Make sure managers have experience with the REIT's type of real-estate holding.
- ▶ Look for significant equity ownership by insiders. Avoid REITs that are exit strategies for beleaguered developers.
- ▶ Check that dividends paid are no more than 90% of funds from operation. If dividends are higher, they might be cut if vacancies in REIT properties increase.

DATA. BUSINESS WEEK

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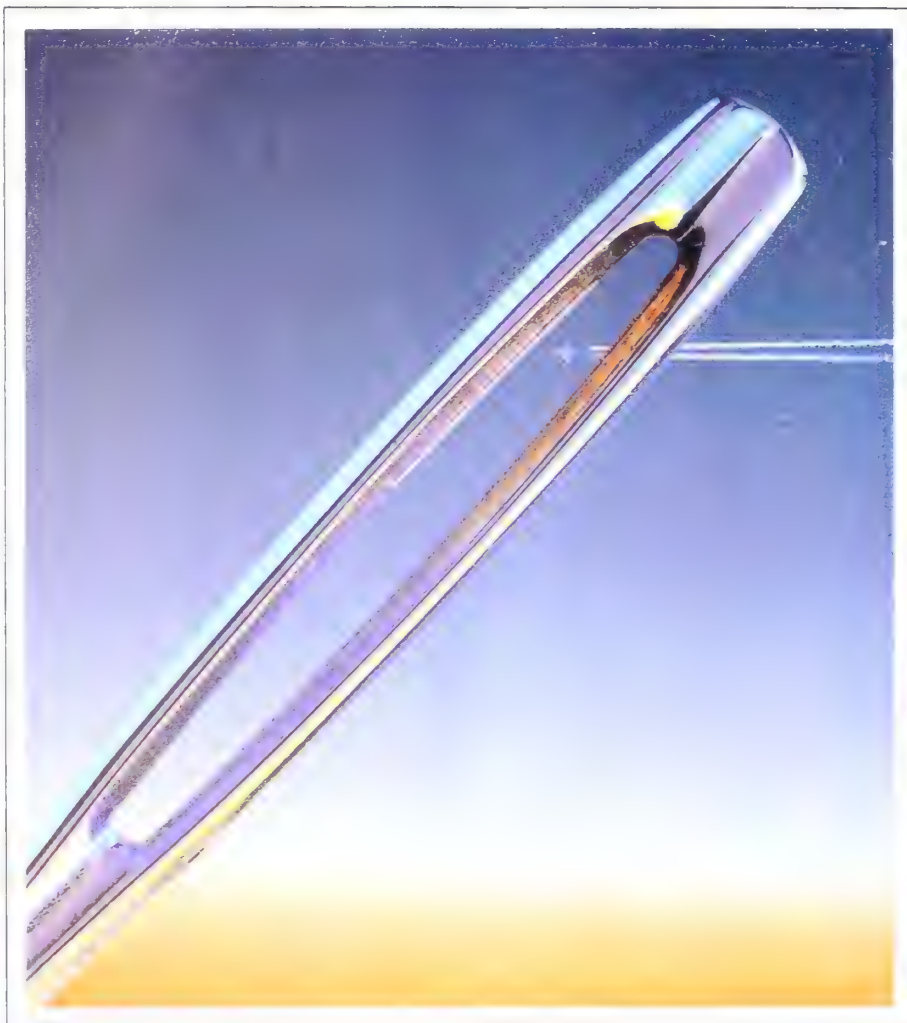
The logo for Syncordia, featuring the word "SYNCORDIA" in a stylized, bold, sans-serif font. The letters are white with a blue outline, and the background is a dark blue gradient.

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NEEDLES TO JUMBO JETS



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Some would have you believe that the great phone rate wars are and all the long-distance ers are within pennies of other. Don't believe it. People who do a lot of g, searching for deals is worth it. But be pre- l to shop: The race is no r just among American hone & Telegraph, MCI, Sprint. Other carriers, al- h not as heavily adver- are aggressively going consumers and small esses, and they may be er while offering com- ve service.

One rates have gone gh a major shift away traditional flat per- e charges based on dis-. Carriers are flooding market with calling plans ng a raft of discounts on volume, time of call- and increasingly, most- ntly called numbers and codes. The issue now is much the various dis- s, piled atop one anothe- ve you at the end of the . Says Samuel Simon, er and legal counsel e Telecommunications urch & Action Center): "The biggest differ- in your bill will be the not the company."

MINI-MIXED PLANS. The right an save significant dol- A family making 150 a month, mostly on weekends, would 241 under AT&T's stan- plan, according to a re- TRAC study. Those same would cost just \$205 un- Metromedia's Take 20 \$186 under Allnet's ESP and as little as \$148 with Prime Time with ls & Family, if all calls fellow MCI subscribers. ler AT&T's Simple Sav- lan, a component of its i plan," the subscriber pay \$203. The "i plan," used by AT&T last ary, also offers a range tomized services, such essage forwarding. he complete TRAC hich compares ns offered by the -gest carriers, send l a self-addressed

Phoning

TALK IS CHEAP—WITH THE RIGHT LONG-DISTANCE DEAL

stamped envelope to TRAC, P. O. Box 12038, Washington, D. C. 20005.)

To pick the right plan, you have to be alert to your fam- ily's calling patterns: the amount of night and weekend calling and the volume of fre- quently dialed numbers. And you should review the plans yearly or when your lifestyle changes—for example, when a child goes off to college.

Choose the wrong plan and you could end up paying more. Says one industry ex- ecutive: "You can pay through the nose" for calling outside the plan's parameters.

High-volume users might even consider signing up for several plans. You could take, say, MCI's Friends & Family at home but use Metromedia Communications or Allnet on trips, with their no-fee call-

ing cards. (AT&T charges 80¢ per calling-card call; MCI and Sprint, 75¢.) And use LCI International of Columbus, Ohio, for daytime business calls, with its flat 17¢-a-minute day rates, as opposed to an average of 20-plus cents a minute.

Small and midsize busi- nesses have a special incen- tive to shop carriers. With the arrival of 800 portability in May, allowing businesses to switch carriers and take their toll-free numbers with them, providers are offering pack- ages that could trim 800 bills by as much as 35% off stan- dard rates from AT&T, which controls a reported 74% of the market. Carriers are also offering deep discounts on reg- ular long-distance service, of- ten with onetime deals to get companies to switch over their entire phone business. "The language of the day is: How many months am I going to get free? The going rate is at least two months," says Frank Grillo, director of switched services for Metro- media. Far more attractive are off-the-top percentage monthly discounts that con- tinue as long as the business stays with that provider.

Other helpful hints:

- Line quality is a big issue only if you're using the phone to send faxes and data. In that case, you'll likely want a carrier with its own network, rather than a reseller who buys capacity from another company. All carriers are fine for voice transmission.

- Look into six-second billing if you make large numbers of short calls. Most residential plans round off to the minute, which is wasteful for people who leave a lot of messages.

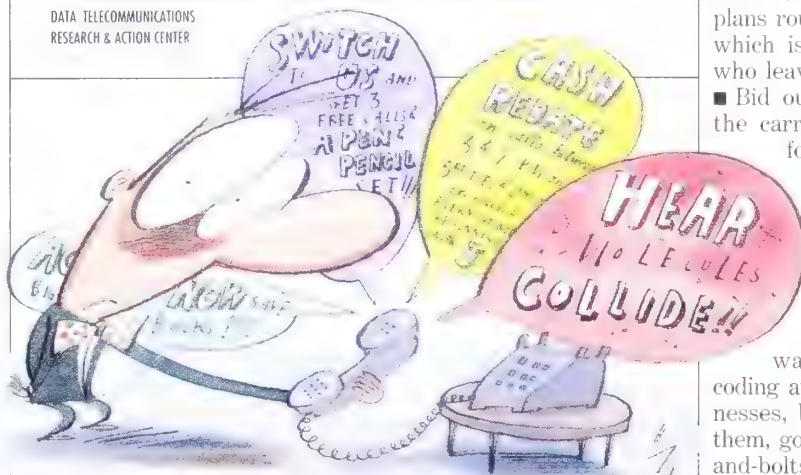
- Bid out your business. All the carriers will quote costs for individual calls, and they will analyze your bill to deter- mine which plan is best for you.

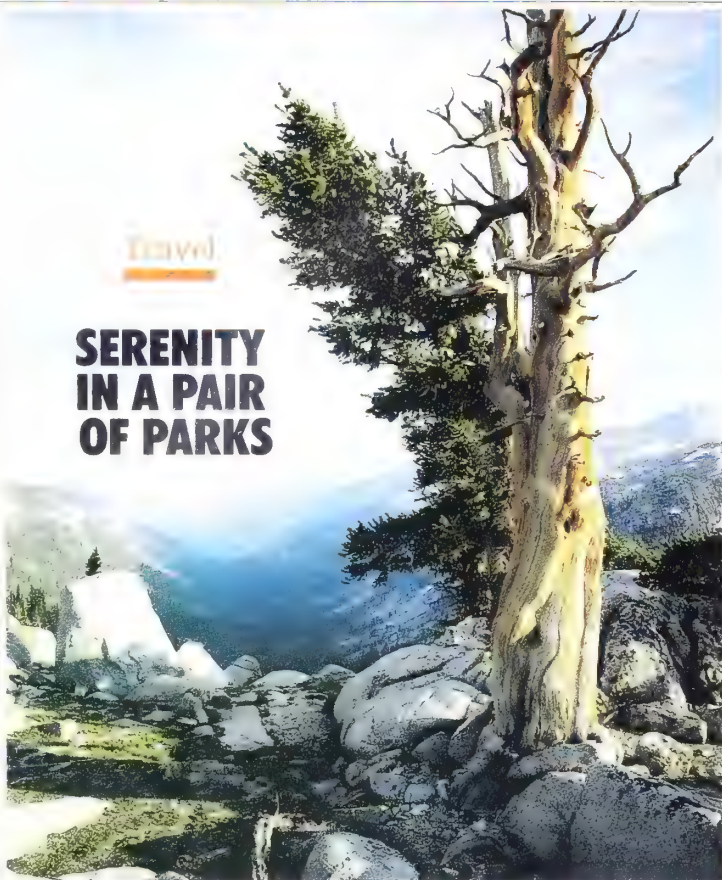
- Don't be swayed by options. Such ser- vices as message for- warding and account coding are vital to many busi- nesses, but if you don't need them, go for the cheaper nuts- and-bolts plan. E.S. Ely

A PLAN FOR EVERYONE

Plan Name	Advantage	Features
AT&T SIMPLE SAVINGS	For those who call often to one area code	25% off calls to one area code, 15% off elsewhere in U.S.; must spend \$30 a month on long distance
LCI'S SIMPLE, FAIR, & INEXPENSIVE	Often cheaper, easier to track spending	Flat 17¢ a minute 6 a.m. to 6 p.m.; 12¢ all other times
MCI PRIME TIME	For moderate callers	\$8.45 a month for an hour of state-to-state calls made off-peak; 10¢ a minute thereafter; peak-time calls 10% off
METROMEDIA'S TAKE 20	For those making calls to as many as five area codes	20% discounts on calls made to five out-of-state area codes and five coun- tries; 23¢ a minute for other day calls; 12.5¢ off-peak
SPRINT PLUS	For high-volume callers	Maximize savings as bills pass \$200; volume discounts reach 30% off- peak, 10% off on daytime calls

DATA TELECOMMUNICATIONS
RESEARCH & ACTION CENTER





TRAVEL SERENITY IN A PAIR OF PARKS

It's a rugged six-mile trail to Paradise Valley in California's Kings Canyon National Park, an oasis naturalist John Muir once said rivaled nearby Yosemite in beauty and grandeur. After climbing 1,500 feet in view of sheer cliffs, roaring waterfalls, and house-sized boulders, the cool upland valley is a welcome respite. Knee-high ferns shimmer in a flowering meadow. Plump fish glide in a nearby stream. All is quiet, except for the hum of birds and the rustle of nearby deer.

Welcome to the little-known Eden of the Sierra Nevada. Few travelers from Los Angeles or San Francisco take the six-hour drive to Kings Canyon, opting instead for the more popular, but crowded, Yosemite National Park. But if throngs of tourists, traffic jams, and smog aren't your idea of a summer getaway, you may want to lace up your hiking boots and hit the trails in lesser-known Kings Canyon and the neighbor-

ing Sequoia National Park.

The parks are loaded with a variety of spectacular sights, ranging from the world's largest grove of towering sequoia trees, some as old as 2,500 years, to snow-capped Mt. Whitney, which, at 14,494 feet, is the highest point in the contiguous U.S. You can hear the Kings River from the parks' mountain roads as it thunders through a stony gorge that, in some places, is deeper than Arizona's Grand Canyon. One of

the more popular attractions in Sequoia is the General Sherman Tree, which soars nearly 27 stories high and, park officials claim, is the world's largest living thing. "We don't see trees this big back home," says Louisiana native Ronald Aiken as he marvels at a 2,000-year-old sequoia that was scarred from a fire 200 years ago.

SQUIRREL SCARE. Spanish explorer Gabriel Moraga was one of the first Europeans to discover the pristine wilderness when, in 1806, he camped on the banks of a stream and named it "the river of the holy kings." By the mid-1850s, scores of settlers built grazing ranches and lumber mills. But preservationists won a hard-fought battle to protect the forests from ruin when Sequoia National Park was established in 1890. It's the nation's second-oldest park, after Yellowstone. Kings Canyon was created exactly 50 years later.

Sequoia and Kings Canyon attract hikers interested in sights that are off the beaten track. It's not uncommon to walk for miles without seeing another soul. Only 1.6 million visitors passed through both parks' gates in 1992, which is well below the 3.9 million who descended on Yosemite last year. Swiss tourists Ruth and Chris Kaiser ended up spending three days in Sequoia, bypassing Yosemite altogether.

"It is so peaceful here," he says.

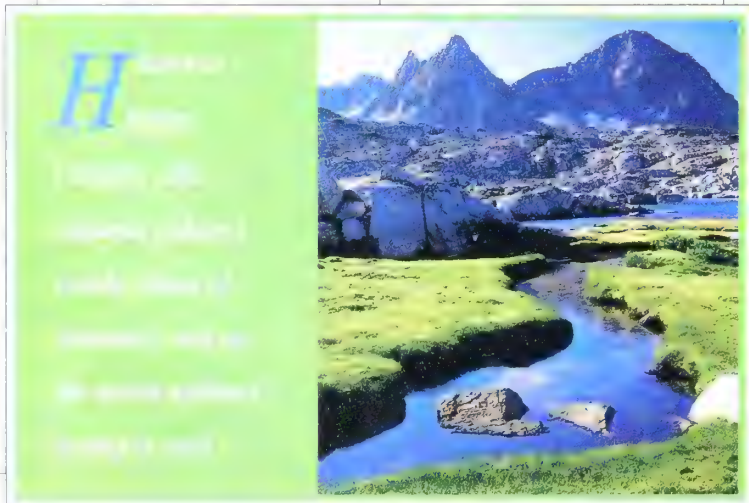
The best way to experience the parks is to sleep under the stars. Most campgrounds have running water and restrooms, and several are equipped with laundry facilities, showers, grocery stores, and cafeterias. Campsites cost \$5 to \$12 a night and are first come, first served, except at Lodgepole in Sequoia, where reservations are accepted during summer. (Call Mistix at 365-2267.) Visitors are warned not to feed the bears or squirrels and to store food properly. One campsite was closed last year when it was suspected that a squirrel had died of bubonic plague. The site was reopened this spring after no further incidents were reported.

If a warm bed, rather than a tent, is your style, there are a number of comfortable lodges and motels in the area. In Sequoia, hikers gather at the Giant Forest Lodge, which has a dining room and a looking a velvety grass meadow. In Kings Canyon, there are lodges at Grant and Cedar Groves.

FIRESIDE SLIDES. Reservations are advised and can be made by calling 209 561-3314. Prices for accommodations go as high as \$111 a night, for a carpeted cabin with a fireplace, and drop as low as \$10 for a rustic cabin with a bath. Be forewarned: Rustic means rustic. Cabins, for the most part, do not have electricity, although each has a wood-burning stove, kerosene lamp, and beds.

On warm summer evenings, visitors can enjoy a variety of fireside activities, including picnics, shows, sing-alongs, and nature programs. Hikers are welcome to join park rangers on weekly wildflower and bird-watching walks.

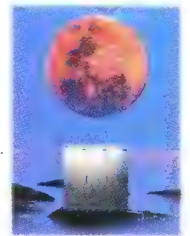
Don't forget to bring a camera to capture the tamed wilderness of the two parks. Once you experience the southern Sierra's quiet beauty, you'll never go back to Yosemite again. *Laura M. Hise*



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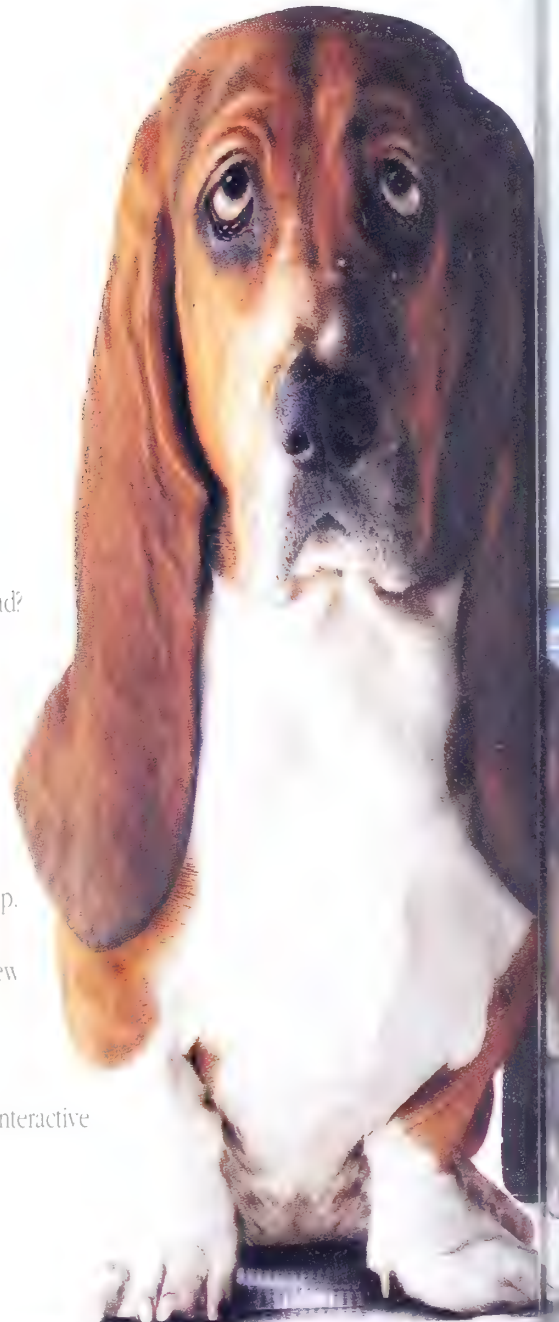
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And Visa doesn't just bring you more customers. It brings you more customers at every income level, from below \$25,000 to the lofty reaches of \$75,000-plus. Clearly, Visa is the card favored by Americans across the board.***

The upshot of all this is that consumers are spending 2.8 times more money with Visa than with Discover.* And that among your fellow merchants, roughly 1,000,000 more accept Visa than accept Discover in the U.S.

Evidently they've made a choice between the card that pays your customers back and the card that pays you back. Their card of overwhelming choice is Visa. That's Visa. With a V. *A capita V.*



Chance
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Visa car



Index to Companies

Index gives the starting page for a story or feature with a significant reference to a company. Most companies are indexed under their own names. Companies listed only in tables are not included.

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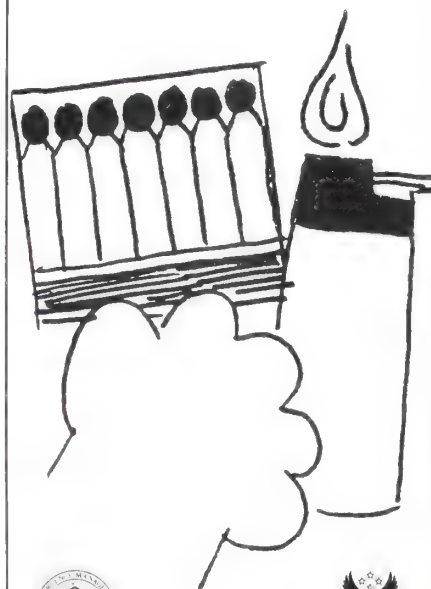
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CURIOUS KIDS SET FIRES

When a kid strikes a match, fire strikes back! Children don't realize that a simple flame can blaze out of control in mere minutes. That may be why nearly twenty-five percent of the fires that kill young children are started by children themselves playing with fire.

Don't let fire strike your family. Always keep matches and lighters far out of the reach of children.



A message from your local fire department, this publication, and the U.S. Fire Administration.

We get 200,000 calls a year at 1-800-USA-XPORT from business people looking for the latest in-depth information on 76 countries and 50 industries worldwide. Starting in January of 1993, this free service will allow businesses to find buyers, suppliers and potential partners listed on the Export/Import Hotline Directory. **To be listed, complete the form below and send it to us, it's that easy.** If you're not listed you'll still be able to use the Directory to find other businesses, but will other businesses be able to find you?

of the Export/Import Hotline for market information and the Export/Import Hotline Directory is free. But, to be listed in the 1993 Export/Import Hotline Directory, companies must complete this form and send a processing fee of \$35. To pay by credit card, fax this form to 617-523-0768, or mail with a check payable to International Strategies, Inc., 260 Franklin St., Boston, MA 02110. Companies that list will receive a free Export/Import Buyer's Manual.

Enclosed is my check for \$35. ☐ I would like to pay by credit card: ☐ American Express ☐ Mastercard ☐ Visa

Business: Manufacturer Service___ Agent___ Distributor___ Importer___ Exporter___ Both___

To be listed enter up to six (6) distinct four (4) digit Harmonized Codes describing products you buy or sell. The Code system allows companies to receive your profile on their fax machines. To get your Harmonized Code(s) contact your freight shipper or your regional Customs Office listed below.

enter more than six codes, please submit another completed form with an additional \$25

Please describe your company's products/services in 20 words or less

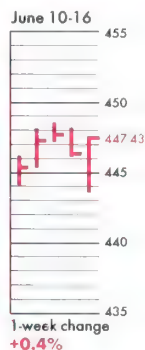
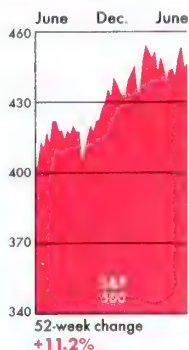


Investment Figures of the Week

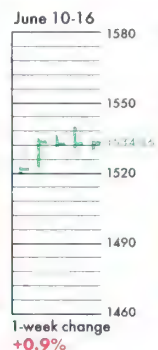
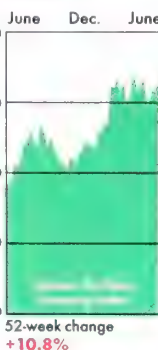
STOCKS

Size stocks showed much The Dow's flat performance was especially disappointing in the wake of the better-than-expected news on the inflation with the producer price in May showing no gain at all. May CPI rising a minuscule amount, however, took their toll on the price numbers and markets. Most foreign equities gained, but not Tokyo, which made new highs vs. the yen and the Japanese economy seemed to limp along.

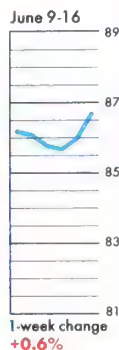
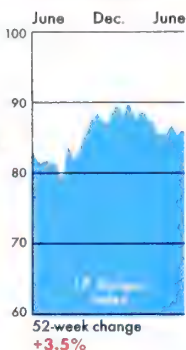
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS	Latest	% change Week	% change 52-week
INDUSTRIALS	3511.7	0.0	6.8
COMPANIES (S&P MidCap Index)	164.5	0.8	19.8
COMPANIES (Russell 2000)	230.1	0.1	21.6
COMPANIES (Russell 3000)	256.1	0.5	13.3

IN STOCKS	Latest	% change Week	% change 52-week
(FINANCIAL TIMES 100)	2883.0	0.6	11.0
NIKKEI INDEX	19,902.4	-3.3	21.0
(TSE COMPOSITE)	3892.5	0.8	15.6

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	3.11%	3.17%	3.69%
30-YEAR TREASURY BOND YIELD	6.81%	6.88%	7.82%
S&P 500 DIVIDEND YIELD	2.80%	2.81%	3.02%
S&P 500 PRICE/EARNINGS RATIO	22.6	22.5	24.6

TECHNICAL INDICATORS

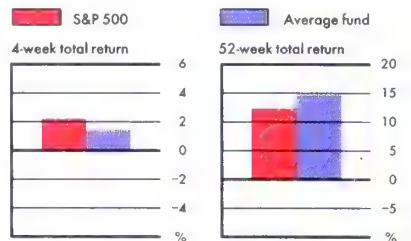
	Latest	Week ago	Reading
S&P 500 26-week moving average	443.4	442.9	Positive
Stocks above 26-week moving average	53.2%	54.5%	Negative
Speculative sentiment: Put/call ratio	0.47	0.46	Positive
Insider sentiment: Vickers sell/buy ratio	2.28	2.35	Neutral

INDUSTRY GROUPS

WEEK LEADERS	% change 4-week	% change 52-week	Strongest stock in group	% change 4-week	% change 52-week	Price
AIRLINES	20.2	-0.8	GALEN HEALTH CARE	35.1	56.3	18 3/4
BUILDING	17.1	48.3	CENTEX	25.7	73.7	35 1/2
DISTANCE TELECOMMUNICATIONS	12.5	47.4	AT&T	14.2	45.8	63 1/4
BROADCASTING	11.5	19.9	TELE-COMMUNICATIONS	21.3	22.1	22 3/4
TELEVISION CONTROL	11.2	3.3	WMX TECHNOLOGIES	13.9	-1.0	35 3/4
WEEK LAGGARDS	% change 4-week	% change 52-week	Weakest stock in group	% change 4-week	% change 52-week	Price
FACTURED HOUSING	-14.9	21.5	FLEEWOOD ENTERPRISES	-16.6	22.5	17
PAPER PUBLISHING	-12.6	13.9	REEBOK INTERNATIONAL	-23.4	26.8	29
MINING	-7.8	-4.1	NEW YORK TIMES	-15.2	-20.9	23 5/8
EXPLORATION AND PRODUCTION	-6.3	5.3	DELTA AIR LINES	-12.0	-12.6	51 3/8
	-5.6	15.1	SANTA FE ENERGY RESOURCES	-10.0	15.7	10 1/8

MUTUAL FUNDS

STOCK FUNDS	% total return	LAGGARDS	% Four-week total return
JAPANES SMALL COMPANY	10.8	MONITREND GOLD	-12.5
EMER LATIN AMERICA	9.4	FINANCIAL STRATEGIC GOLD	-6.7
WILL LYNCH TECHNOLOGY A	8.8	UNITED SERVICES WORLD GOLD	-6.3
BOND FUNDS	% total return	52-week total return	%
GROWTH	63.1	PROGRESSIVE AGGRESSIVE GROWTH	-26.7
E-STATE STREET GLOBAL ENERGY	62.2	FINANCIAL STRATEGIC ENVIRONMENTAL	-20.8
HANCOCK SPECIAL EQUITIES A	47.5	FIDELITY SELECT MEDICAL DELIVERY	-12.7



RELATIVE PORTFOLIOS

Portfolios	Relative portfolios are valued as of June 15.
Foreign stocks	\$13,079
Treasury bonds	\$12,252
U.S. stocks	\$11,249
Gold	\$10,658
Money market fund	\$10,239

This page is as of market close Wednesday, June 16, 1993, unless otherwise indicated. Figures include S&P 500 companies only; performance and share prices are as of market close.

June 15. Mutual fund returns are as of June 11. Relative portfolios are valued as of June 15. A more detailed explanation of this page is available on request.

THE RIGHT FAMILY VALUES IN THE WORKPLACE

Family-friendly companies are hard to come by. In the rush to be competitive in a rough-and-tumble global economy, the last thing most managers want to deal with is the personal problems of their employees. Sick kids, elderly parents, troubled husbands, wives, and close friends are far from the bottom line.

Or so they think. The next frontier in the battle for higher productivity is shaping up to be in the arena of work and family. Such companies as Johnson & Johnson and AT&T are discovering that family-friendly work environments more than pay for themselves. Flexible hours, restructured work, and unpaid leaves for emergencies actually reduce absenteeism, cut turnover, save money, and boost efficiency (page 80).

While many corporations bemoan the impending Family & Medical Leave Act as yet another burdensome government mandate, others see the August deadline for implementation as a chance to make themselves even more competitive. Corporate America should take note and follow in their tracks.

There isn't a lot of choice. With a growing population of dual-career couples, single parents, and aging elders, balancing the demands of home and work has become the great game of the American middle class. Hours in the office spent on the phone with a hospitalized father or with a sitter tending a sick child is work time wasted.

Breakthrough managers, so called by the Conference Board's Work & Family Council, take such problems and transform them into opportunities for their companies. Although one in eight large U.S. corporations already has some combination of flextime, job-sharing, and family-leave policies on its books, it is the middle manager who designs work and family practices through implementation of the rules. Finding solutions that get the work done and help in family situations is one of the biggest management challenges of the day.

Fortunately, the dramatic decentralization of corporate organization combined with recent advances in information technology are providing managers with the tools. In the need for flexibility to solve work and family problems, beginning to look like nothing more than an extension of the growing corporate need for flexibility in all its staffing requirements. Managers are realizing that "face time" at the office is far less important than getting results. And that requires the kind of flexibility that works for everybody.

So telecommuting, job sharing, and time compression (working four 10-hour days a week) are not only increasingly possible for people with families but also increasingly preferable for a growing number of employees without them. The recent push to give salespeople portable computers and their office space to save rental costs is not much different from having mothers of newborns work at home, assuming their jobs are portable.

The growing business of outsourcing professional work is another area where the need for flexibility in business meshes with the same need in families. Leaving the corporate to consult and do temporary professional work is attractive to tens of thousands of people who want to take the time to raise children or care for ailing parents. Companies save money by cutting fixed costs, while workers keep a foot out the corporate door and maintain part of their earnings.

People and corporations alike go through life-work cycles. The early years are devoted to fast growth, long work hours, and a steep learning curve. Expansion of responsibilities and organization then requires more flexibility and balancing of needs and demands. Learning to mesh personal and business work cycles can provide an unexpected boost of productivity. Family-friendly companies are doing everyone a favor—especially themselves.

FOR BEST RESULTS, DECENTRALIZE R&D

Intel Corp. is one of the world's most successful high-tech companies, but it doesn't have a centralized research and development laboratory. Why? Because Chairman Gordon E. Moore discovered long ago, at the birth of Silicon Valley, that centralized R&D labs just don't work very well. Good ideas are forever bottled up inside them—or leak to the outside world when scientists leave to start their own companies. So Intel does all its research and development in its operating divisions, ensuring close teamwork between the people who know the market and those who know the technology. The bottom line: Decentralizing R&D pays off.

Industrial giants around the world are catching on to the idea. Dutch electronics maker Philips once funded all its R&D centrally, which insulated its labs from the needs of the business units. Now, under a new American R&D chief, 70% of R&D funding comes from business units. At ABB Asea Brown Boveri, the Swedish-Swiss conglomerate, the figure is closer to

90%. AT&T Bell Laboratories, once an empire unto itself, is decentralized to the point where most of the people wearing Bell Labs badges draw their salaries from AT&T business units.

Central labs still have an important role. They're good at researching base technologies that can be used by many company operations. By pooling their resources, these units can fund long-term work that would be beyond the resources of any one of them alone. But beware: In the name of expanding base technologies, companies and R&D consortiums are simply watering the soil for upstart rivals. That kind of activism is more properly the role of government, which should pick up the slack as companies reduce their commitment to non-commercial research.

As for profit-generating R&D, don't bottle it up. Farshad, a business manager, knows the technology they need better than an isolated lab, and they're not afraid to pay for it. Intel's R&D budget this year: a hefty \$900 million.



"One thing you learn in racing is that they don't wait for you." *Roger Penske*

Congratulations, Roger!

When he was 14 years old, Roger Penske's father took him to see his first Indianapolis 500. He hasn't missed one since. "The crowd, the excitement—it just got to me," he recalls. "That's when I said to myself, 'Someday I'm going to compete here.'"

Eighteen years later he made it to Indy as the leader of Team Penske—"a group of drivers, engineers, and mechanics who were as committed to the challenge of racing as I was." To date, Team Penske has won ~~eight~~ *Nine!* Indy 500 victories, making it the most successful team ever.

In addition to managing his racing team, Penske runs an international multibillion-dollar automotive business. Whatever his endeavor, he uses the same management techniques. "I try to teach my people

that it's up to them to innovate, to make things happen. You can't just sit around and wait."

In his work, Roger Penske combines a strong focus on results with attention to detail. "The thing I like about Rolex," he explains, "is that they don't compromise either. If you're going to do something, you might as well be the best at it. That's why I've worn a Rolex for over two decades."



ROLEX



Rolex Oyster Perpetual Day-Date in 18kt gold with matching concealed-clasp President bracelet and Ivory Pyramide Roman dial
Write for brochure: Rolex Watch U.S.A., Inc., Dept. 909, Rolex Building, 665 Fifth Avenue, New York, N.Y. 10022-5383
Rolex, the crown logo, Oyster Perpetual Day-Date and President are trademarks

What business

saying

the environment

That is our

A large, multi-deck ferry boat is shown on a body of water. The boat has a white hull and a dark upper section with many windows. It is moving towards the left, leaving a wake behind it. The water is a yellowish-brown color, and the sky is a hazy, light brown. The overall tone of the image is somewhat somber and industrial.

Our hazardous waste treatment center in Hong Kong can handle waste from 10,000 factories. Leaving little reason for harmful chemicals ever

